

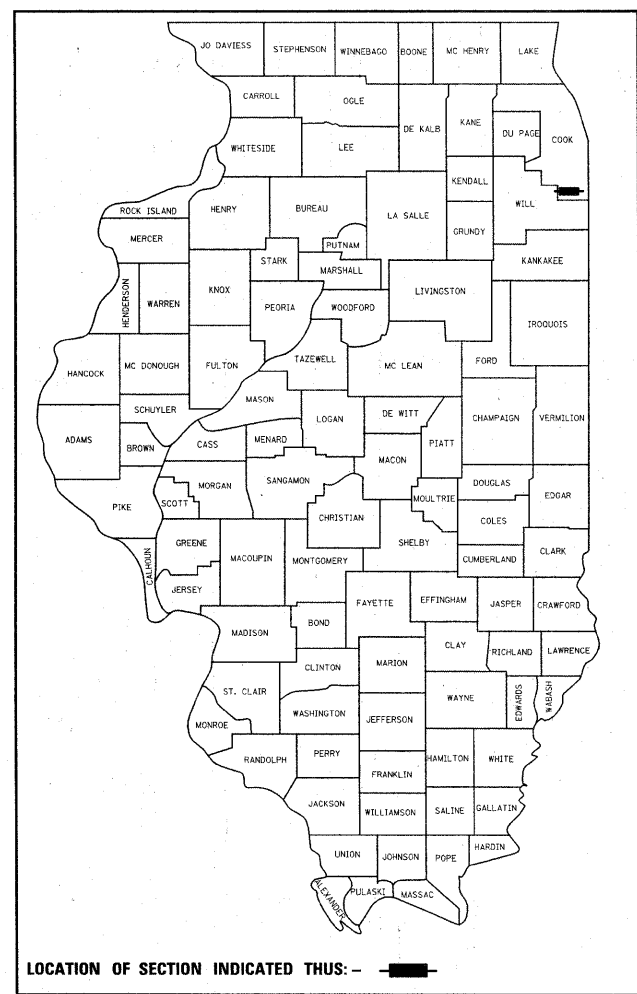
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	38	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 60I49	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP 353 (US 30)  
AT RIDGELAND AVE.  
SECTION: 23-N-3  
INTERSECTION IMPROVEMENT AND  
TRAFFIC SIGNAL MODERNIZATION  
PROJECT: F-HPP-0353(017)  
COOK COUNTY  
C-91-048-10

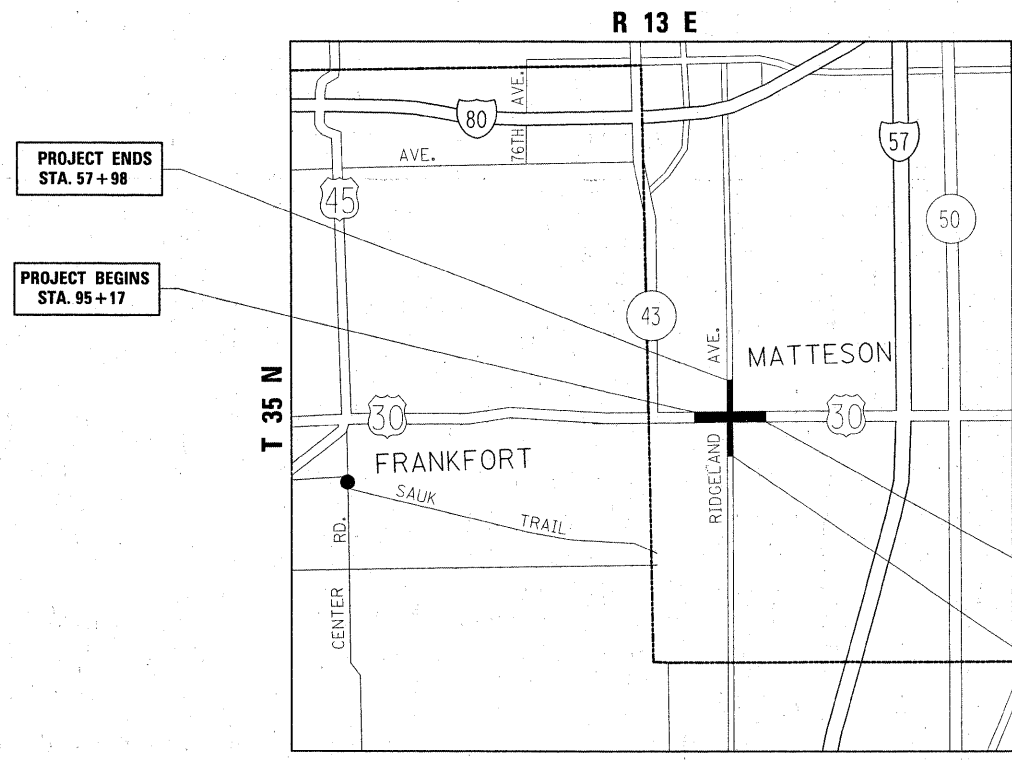
D -91-048-10



LOCATION OF SECTION INDICATED THUS: - ■ -

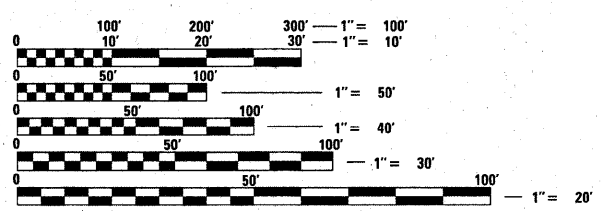
FOR INDEX OF SHEETS, SEE SHEET NO. 2

THE PROJECT IS LOCATED IN  
THE VILLAGE OF MATTESON



**TRAFFIC DATA**

US 30, 2007 ADT = 19,000  
RIDGELAND AVE., 2007 ADT = 4,200  
POSTED SPEED LIMIT = 45 MPH



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER DAN WILGREEN (847) 705-4240  
PROJECT MANAGER KEN ENG (847) 705-4247

GROSS & NET LENGTH OF PROJECT = 2,566 LINEAL FEET = 0.49 MILE

CONTRACT NO. 60I49

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED MARCH 12, 2010

*Diana M. O'Keefe*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 7 2010  
*Scott E. Stitt, P.E.*  
acting ENGINEER OF DESIGN AND ENVIRONMENT

May 7 2010  
*Christine M. Reed*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

INDEX OF SHEETS

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5-7	TYPICAL SECTIONS
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33-38	DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS

STATE STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
420001-07	PAVEMENT JOINTS
442201-03	CLASS C AND D PATCHES
482011-03	HMA SHOULDER STRIP/SHOULDER WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
604001-03	FRAME AND LIDS, TYPE 1
606001-04	CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
606301-04	PC CONCRETE ISLANDS AND MEDIANS
630001-08	STEEL PLATE BEAM GUARDRAIL
701101-02	OFF-RD OPERATION, MULTILANE, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701201-03	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701501-05	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701601-06	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701606-06	URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-06	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-01	TRAFFIC CONTROL DEVICES

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "JULIE" AT 800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. (48 HOURS NOTIFICATION REQUIRED).

10 FEET (3 METER) TRANSITIONS SHALL BE USED TO MATCH PROPOSED CURB AND GUTTER AND MEDIAN ITEMS OF WORK TO EXISTING CURB AND GUTTERS AND MEDIANS IN THE FIELD, UNLESS OTHERWISE SHOWN. THE TRANSITIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEMS OF WORK SPECIFIED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGE OF MATTESON.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

WHEN MILLED PAVEMENT IS OPEN TO TRAFFIC, THE MAXIMUM GRADE DIFFERENTIAL BETWEEN PASSES OF THE MILLING MACHINE SHALL NOT EXCEED 1/2 INCHES (40 MM) WHERE THE SPEED LIMIT IS 45 MPH (80 KM/H) OR LESS AND 1 INCH (25 MM) WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH (80 KM/H). WITH WRITTEN APPROVAL FROM THE ENGINEER, A MAXIMUM GRADE DIFFERENTIAL OF 3 INCHES (75 MM) MAY BE ALLOWED IF THE EDGE OF THE MILLING IS SLOPED A MINIMUM 1:3 (V:H).

BUTT JOINTS WILL BE INSTALLED AT THE ENDS OF ALL RESURFACING (WHERE RESURFACING MEETS EXISTING PAVEMENT), IN ACCORDANCE WITH THE "BUTT JOINT AND HMA TAPER DETAILS" SHEET INCLUDED IN THE PLANS, UNLESS OTHERWISE SPECIFIED.

THE RESIDENT ENGINEER SHALL CONTACT MS. PATRICE HARRIS, AREA TRAFFIC FIELD ENGINEER AT (708) 597-9800 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKING.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS PRIOR TO THE PLACEMENT OF TEMPORARY TRAFFIC CONTROL DEVICES.

THE RESIDENT ENGINEER SHALL DETERMINE THE LOCATIONS OF CLASS "D" PATCHES.

THE RESIDENT ENGINEER SHALL VERIFY THE LOCATIONS OF ALL EXISTING PAVEMENT MARKINGS PRIOR TO MILLING OR RESURFACING.

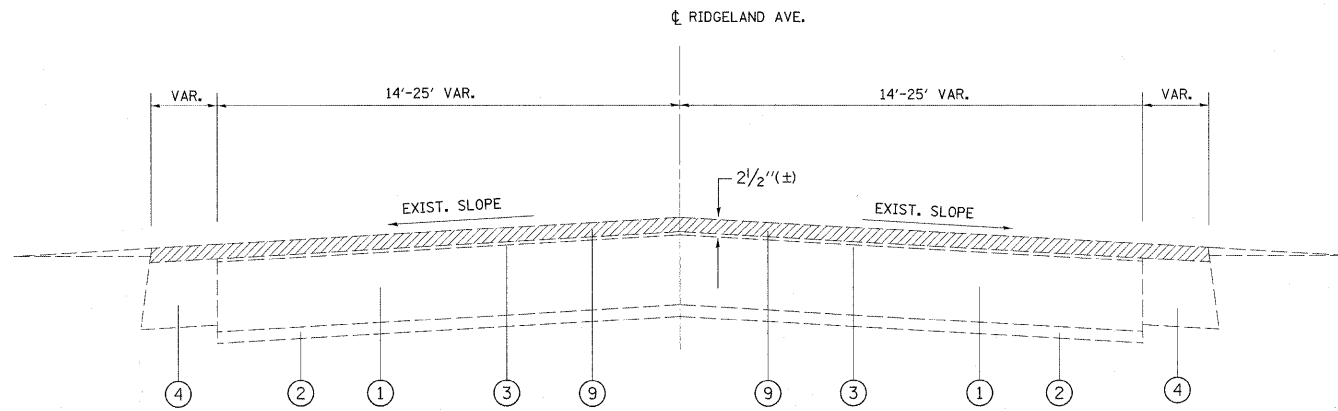
BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED REFLECTIVE MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.

FILE NAME =	USER NAME = shiranisb	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, LIST OF STATE STANDARDS &amp; GENERAL NOTES US ROUTE 30 AT RIDGELAND AVENUE</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\p\work\PIWIDOT\SHIRANISB\0107234\PI10907-Design.dgn	DRAWN -	REVISED -	353			23-N-3	COOK	38	2	
PLOT SCALE = 50,000' / IN.	CHECKED -	REVISED -	CONTRACT NO. 60149							
PLOT DATE = 3/10/2010	DATE -	REVISED -	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT							
					SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.

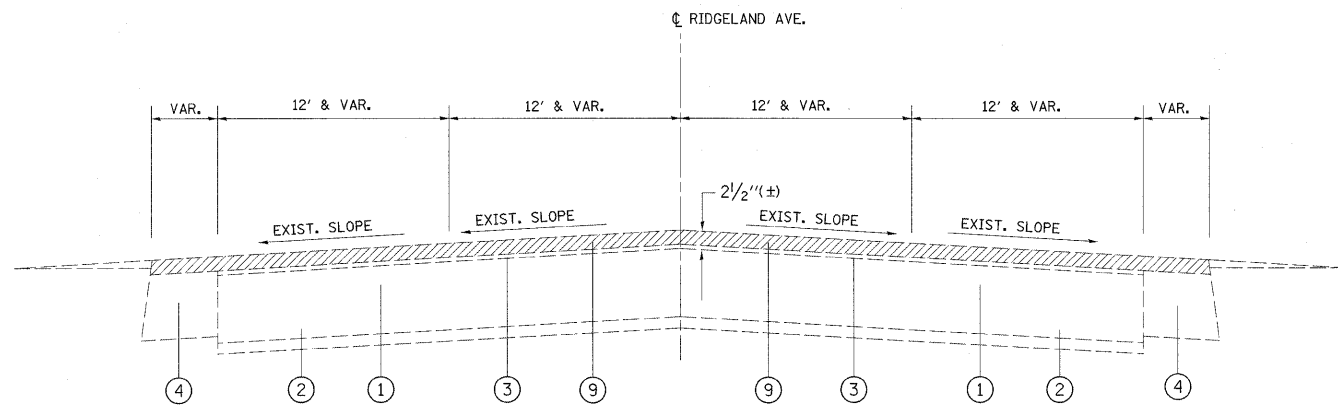


SUMMARY OF QUANTITIES				URBAN					SUMMARY OF QUANTITIES					URBAN				
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	STATE	VILLAGE OF MATTESON	CONSTRUCTION TYPE CODE			CODE NO	ITEM	UNIT	TOTAL QUANTITIES	STATE	VILLAGE OF MATTESON	CONSTRUCTION TYPE CODE			
				I000	Y031-1F								I000	Y031-1F				
81018500	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	125	125					88500100	INDUCTIVE LOOP DETECTOR	EACH	8	8					
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	347	347					88600100	DETECTOR LOOP, TYPE I	FOOT	1074	1074					
81400100	HANDHOLE	EACH	5	5					88700200	LIGHT DETECTOR	EACH	2		2				
81400200	HEAVY-DUTY HANDHOLE	EACH	4	4					88700300	LIGHT DETECTOR AMPLIFIER	EACH	1		1				
81400300	DOUBLE HANDHOLE	EACH	1	1					89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1	1					
81900200	TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	743	743					89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	4479	4479					
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1	1					89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1	1					
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	338						89502380	REMOVE EXISTING HANDHOLE	EACH	11	11					
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2557	2557					89502385	REMOVE EXISTING CONCRETE FOUNDATION	EACH	9	9					
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	864	864					X0322256	TEMPORARY INFORMATION SIGNING	SQ FT	102.8	102.8					
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1898	1898					X0325737	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1	1					
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	73	73					X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	1	1					
87502480	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	2	2					X8620020	UNINTERRUPTIBLE POWER SUPPLY	EACH	1	1					
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	2	2					X8730027	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	644	644					
87700250	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1	1					X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	338		338				
87700260	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1	1					Δ Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	2	2					
87700300	STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	1	1					Z0018700	DRAINAGE STRUCTURE TO BE REMOVED	EACH	1	1					
87700310	STEEL MAST ARM ASSEMBLY AND POLE, 54 FT.	EACH	1	1					Z0023600	FILLING EXISTING CULVERTS	EACH	1	1					
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16	16														
87800150	CONCRETE FOUNDATION, TYPE C	FOOT	4	4														
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	56	56														
88030020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8	8														
88030050	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2	2														
88030110	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2	2														
88030240	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	2	2														
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	10	10														

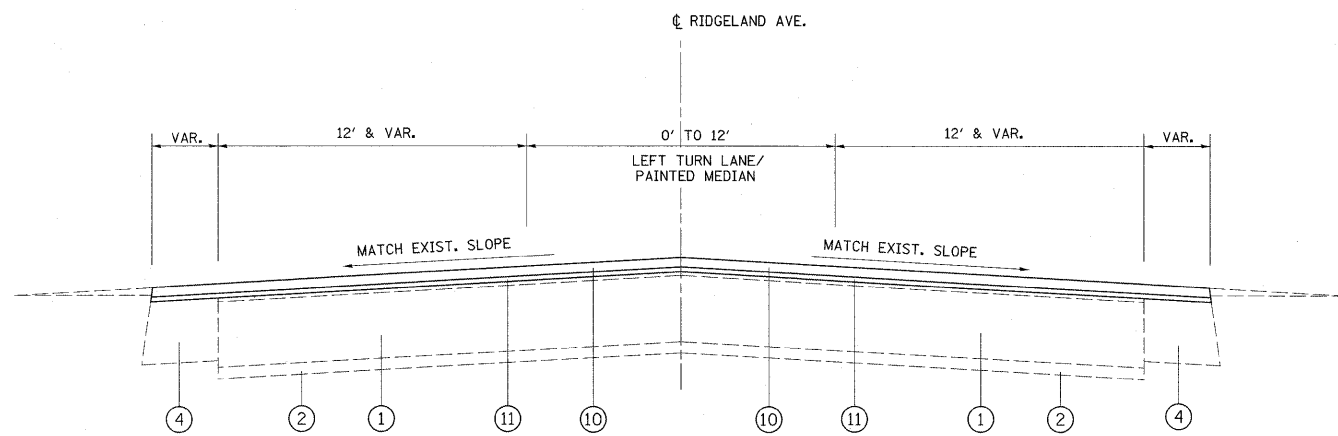
Δ Non-participating  
\* SPECIALTY ITEMS



EXISTING TYPICAL SECTION RIDGELAND AVE.  
 STA. 42+03 TO STA. 46+97  
 STA. 53+00 TO STA. 57+98



EXISTING TYPICAL SECTION RIDGELAND AVE.  
 STA. 46+97 TO STA. 49+16  
 STA. 50+82 TO STA. 53+00



PROPOSED TYPICAL SECTION RIDGELAND AVE.  
 STA. 42+03 TO STA. 49+16  
 STA. 50+82 TO STA. 57+98

**LEGEND**

- ① EXIST. PCC BASE COURSE, 10"( $\pm$ )
- ② EXIST. SUB-BASE GRANULAR MATERIAL, TYPE B, 4"
- ③ EXIST. HOT-MIX ASPHALT OVERLAY, 2 1/2"( $\pm$ )
- ④ EXIST. HMA SHOULDER
- ⑤ PROP. PAVED SHOULDER REMOVAL
- ⑥ PROP. COMB. CONCRETE CURB AND GUTTER REMOVAL
- ⑦ PROP. CONCRETE MEDIAN SURFACE REMOVAL
- ⑧ PROP. HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"
- ⑨ PROP. HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
- ⑩ PROP. HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90, 1 3/4"
- ⑪ PROP. POLYMERIZED LEVELING BINDER (MM), IL-4.75, N50, 3/4"
- ⑫ PROP. CONCRETE MEDIAN SURFACE, 6"
- ⑬ PROP. CONCRETE CURB AND GUTTER, TYPE B-9.12
- ⑭ PROP. PCC BASE COURSE WIDENING, 10"
- ⑮ PROP. SUB-BASE GRANULAR MATERIAL, TYPE B, 4"
- ⑯ PROP. PAVEMENT REMOVAL
- ⑰ PROP. HOT-MIX ASPHALT SHOULDER, 10"
- ⑱ PROP. GAUDDRAIL REMOVAL
- ⑲ PROP. STEEL PLATE BEAM GUARDRAIL
- ⑳ PROP. GRADING AND SHAPING DITCHES
- ㉑ PROP. NO. 6 EPOXY COATED DEFORMED BARS @ 24" CENTERS

**NOTES:**

PAVEMENT PATCHING SHALL BE DONE PRIOR TO MILLING OF THE ROADWAY.  
 PAVEMENT PATCHING SHALL BE DONE ONLY ON RIDGELAND AVE.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS	
MIXTURE USES	DESIGN AIR VOIDS
HMA SURFACE COURSE, MIX "F", N90	4% AT 90 GYR.
POLYMERIZED LEVELING BINDER (mm), IL-4.75, N50	4% AT 50 GYR.
CLASS D PATCHES, (HMA BINDER IL-19.0 mm)	4% AT 70 GYR.
HMA REPLACEMENT OVER PATCHES (HMA BINDER, IL-19.0 mm)	4% AT 70 GYR.
HMA SHOULDER, (HMA BINDER IL-19 mm)	4% AT 70 GYR.

**NOTES:**

THE UNIT WEIGHT USED TO CALCULATE ALL HMA SURFACE MIXTURES QUANTITIES IS 112 LBS/SQ YD/IN.

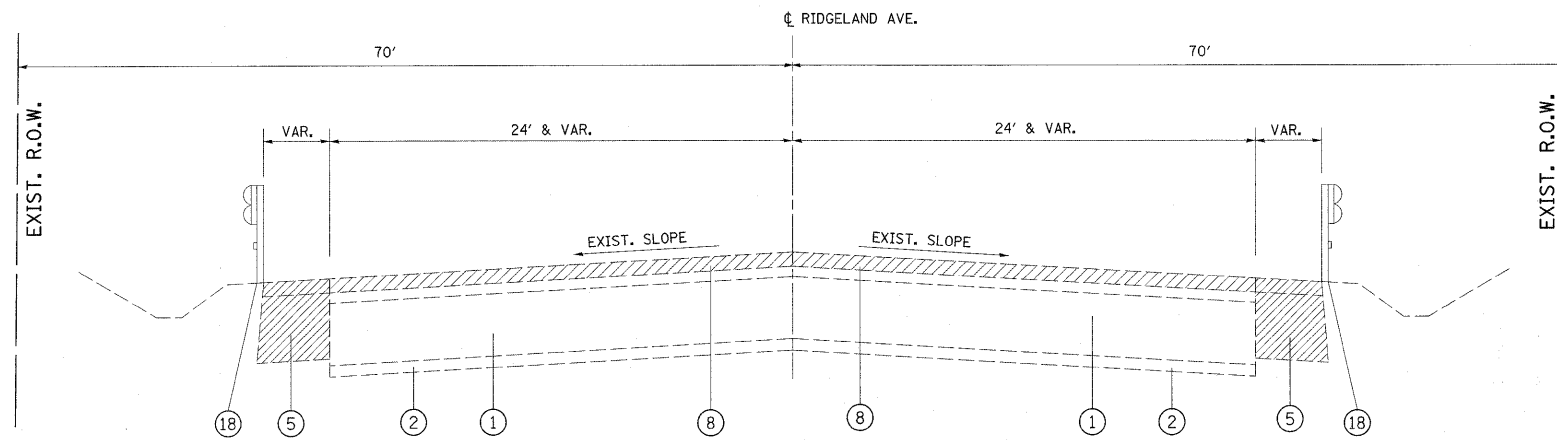
THE "AC TYPE FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 70-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.  
 FOR "PERCENT OF RAP" SEE DISTRICT ONE SPECIAL PROVISIONS.

**LEGEND**

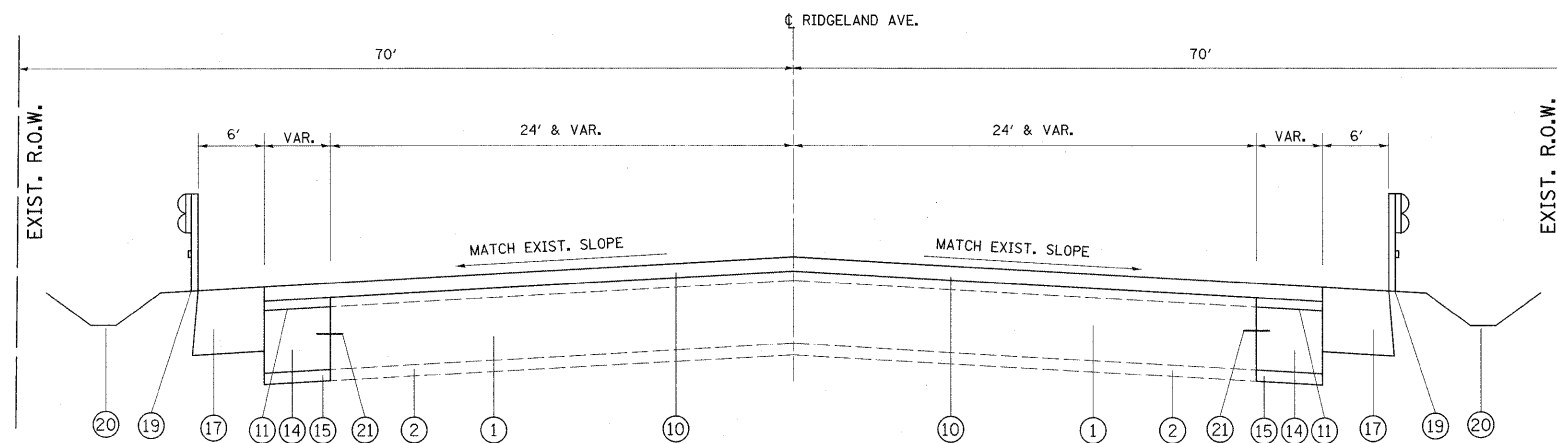
- ① EXIST. PCC BASE COURSE, 10''(±)
- ② EXIST. SUB-BASE GRANULAR MATERIAL, TYPE B, 4''
- ③ EXIST. HOT-MIX ASPHALT OVERLAY, 2½''(±)
- ④ EXIST. HMA SHOULDER
- ⑤ PROP. PAVED SHOULDER REMOVAL
- ⑥ PROP. COMB. CONCRETE CURB AND GUTTER REMOVAL
- ⑦ PROP. CONCRETE MEDIAN SURFACE REMOVAL
- ⑧ PROP. HOT-MIX ASPHALT SURFACE REMOVAL, 1¾''
- ⑨ PROP. HOT-MIX ASPHALT SURFACE REMOVAL, 2½''
- ⑩ PROP. HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90, 1¾''
- ⑪ PROP. POLYMERIZED LEVELING BINDER (MM), IL-4.75, N50, ¾''
- ⑫ PROP. CONCRETE MEDIAN SURFACE, 6''
- ⑬ PROP. CONCRETE CURB AND GUTTER, TYPE B-9.12
- ⑭ PROP. PCC BASE COURSE WIDENING, 10''
- ⑮ PROP. SUB-BASE GRANULAR MATERIAL, TYPE B, 4''
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- ⑰ PROP. HOT-MIX ASPHALT SHOULDER, 10''
- ⑱ PROP. GAURDRAIL REMOVAL
- ⑲ PROP. STEEL PLATE BEAM GUARDRAIL
- ⑳ PROP. GRADING AND SHAPING DITCHES
- ㉑ PROP. NO. 6 EPOXY COATED DEFORMED BARS @ 24'' CENTERS

**NOTES:**

PAVEMENT PATCHING SHALL BE DONE PRIOR TO MILLING OF THE ROADWAY.  
PAVEMENT PATCHING SHALL BE DONE ONLY ON RIDGELAND AVE.



EXISTING TYPICAL SECTION RIDGELAND AVE.  
STA. 49+16 TO STA. 50+82

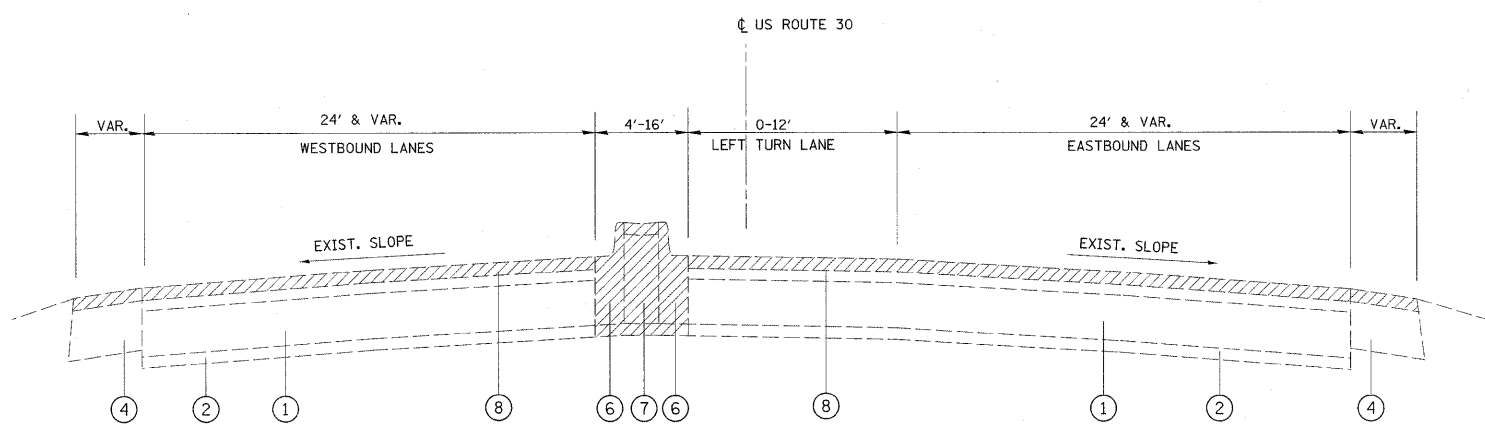


PROPOSED TYPICAL SECTION RIDGELAND AVE.  
STA. 49+16 TO STA. 50+82

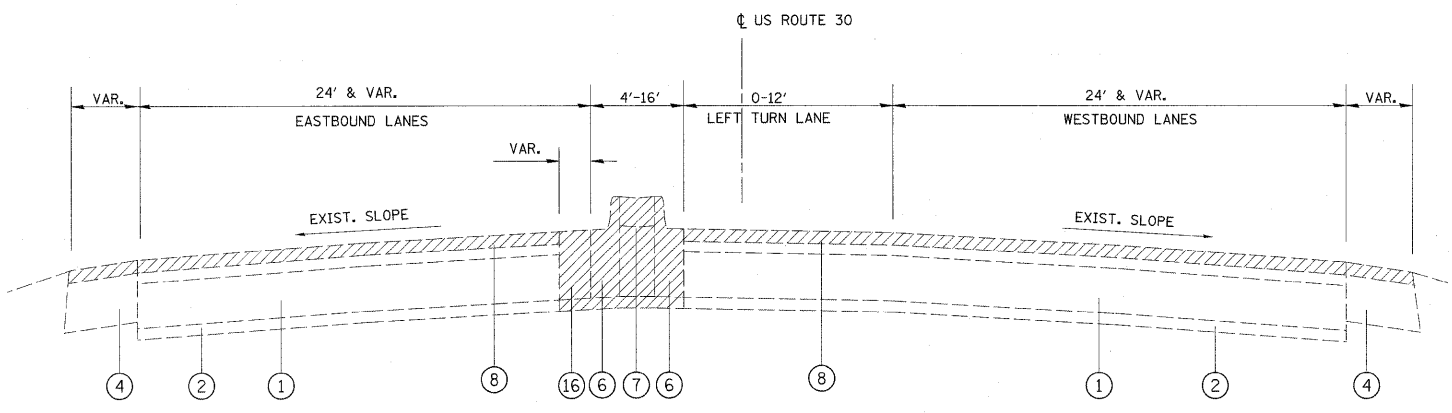
**EARTHWORK**

	1	2	3	4	5	6
US 30 AT RIDGELAND AVE.		EARTH EXCAVATION (CU YD)	UNSUITABLE MATERIALS (CU YD)	EMBANKMENT (CU YD)	ADJUSTMENT FOR SHRINKAGE (CU YD)	FURNISHED EXCAVATION (CU YD)
ALL FOUR CORNERS OF INTERSECTION		13	19	11	11	0

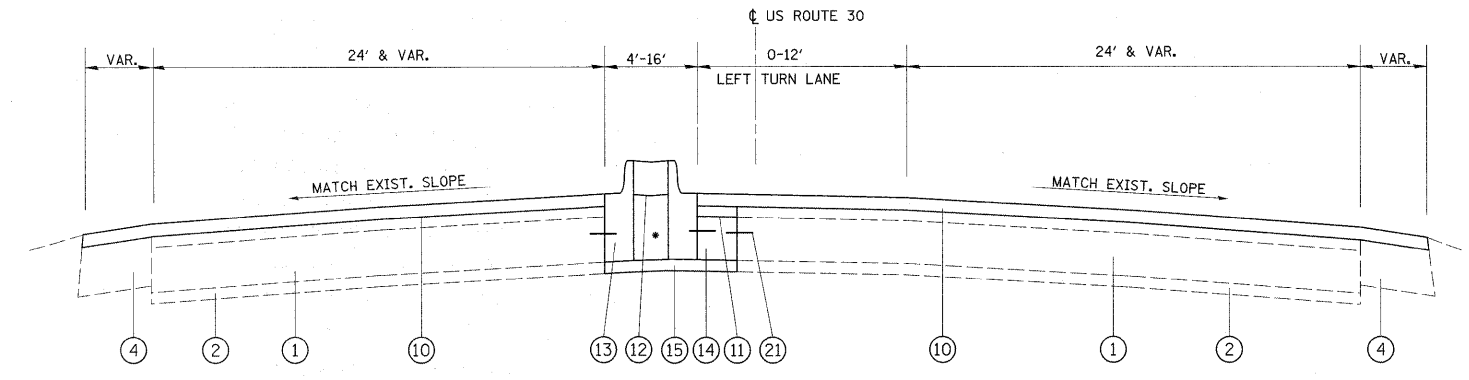
COLUMN 1: LOCATION FROM PLANS  
 COLUMN 2: CUT QUANTITIES WHICH DOES NOT INCLUDE UNSUITABLE MATERIALS  
 COLUMN 3: CUT MATERIALS THAT IS DETERMINED TO BE EITHER UNSUITABLE OR OR UNSUITABLE IN EMBANKMENT (TOP SOIL EXCAVATION AT 6" AVERAGE DEPTH)  
 COLUMN 4: FILL QUANTITIES  
 COLUMN 5: EXCAVATION THAT IS TO BE USED AS FILL MATERIAL IN THE EMBANKMENT, SHRIKAGE FACTOR WAS DETERMINED TO BE 15%  
 COLUMN 6: COLUMN 5 - COLUMN 4, POSITIVE QUANTITY = EXTRA EXCAVATION, NEGATIVE QUANTITY = FURNISHED EXCAVATION NEEDED



EXISTING TYPICAL SECTION US ROUTE 30  
STA. 95+17 TO STA. 99+64 (WEST LEG, FACING EAST)

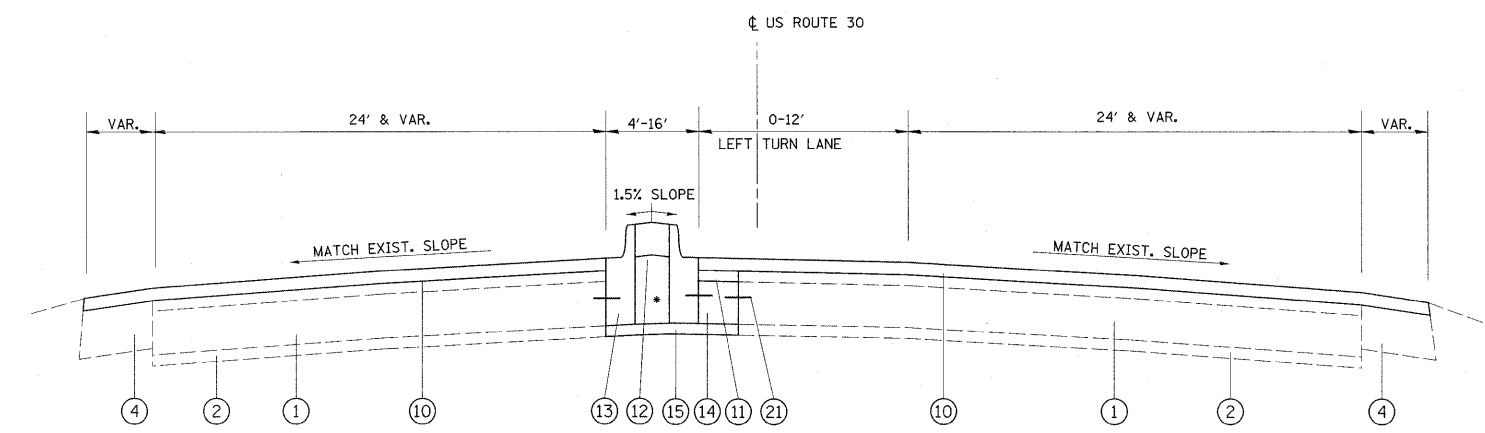


EXISTING TYPICAL SECTION US ROUTE 30  
STA. 50+35 TO STA. 54+88 (EAST LEG, FACING WEST)



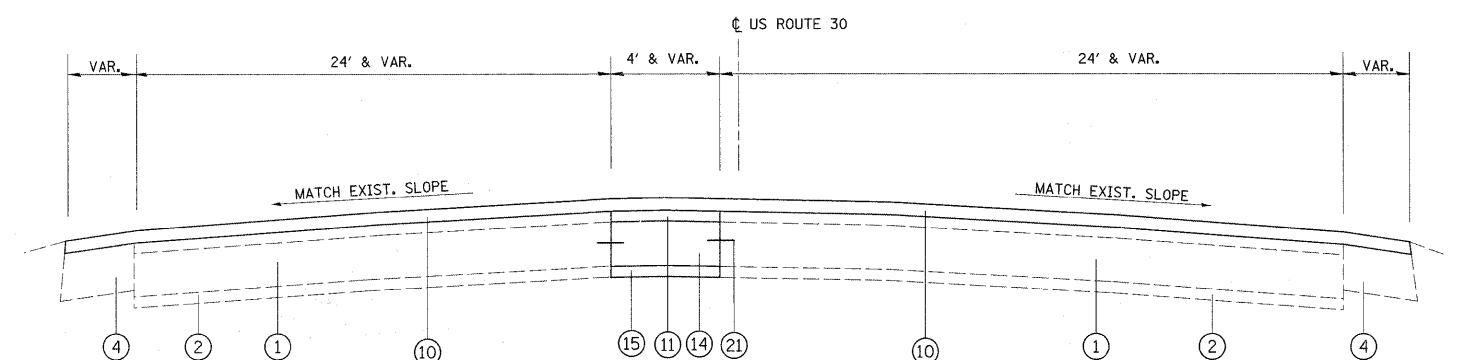
PROPOSED TYPICAL SECTION US ROUTE 30  
STA. 95+17 TO STA. 99+54 (WEST LEG, FACING EAST)

\*NOTE: PROP. SANDFILL SHOULD BE INCLUDED IN THE COST OF CONC. MEDIAN SURFACE.



PROPOSED TYPICAL SECTION US ROUTE 30  
STA. 50+51 TO STA. 54+88 (EAST LEG, FACING WEST)

\*NOTE: PROP. SANDFILL SHOULD BE INCLUDED IN THE COST OF CONC. MEDIAN SURFACE.



PROPOSED TYPICAL SECTION US ROUTE 30  
STA. 50+35 TO STA. 50+51  
STA. 99+54 TO STA. 99+64

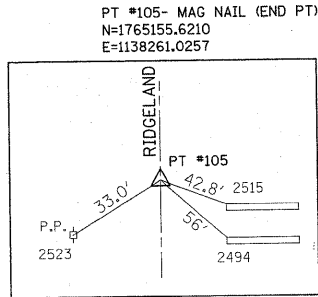
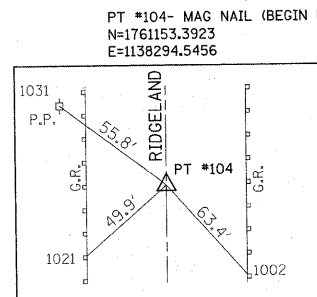
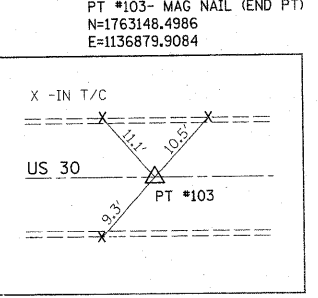
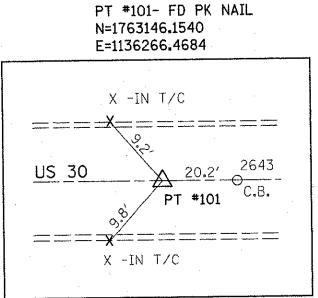
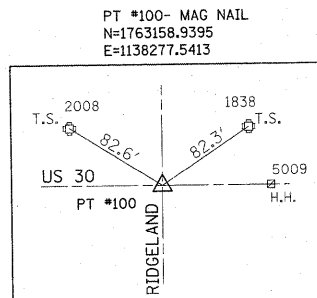
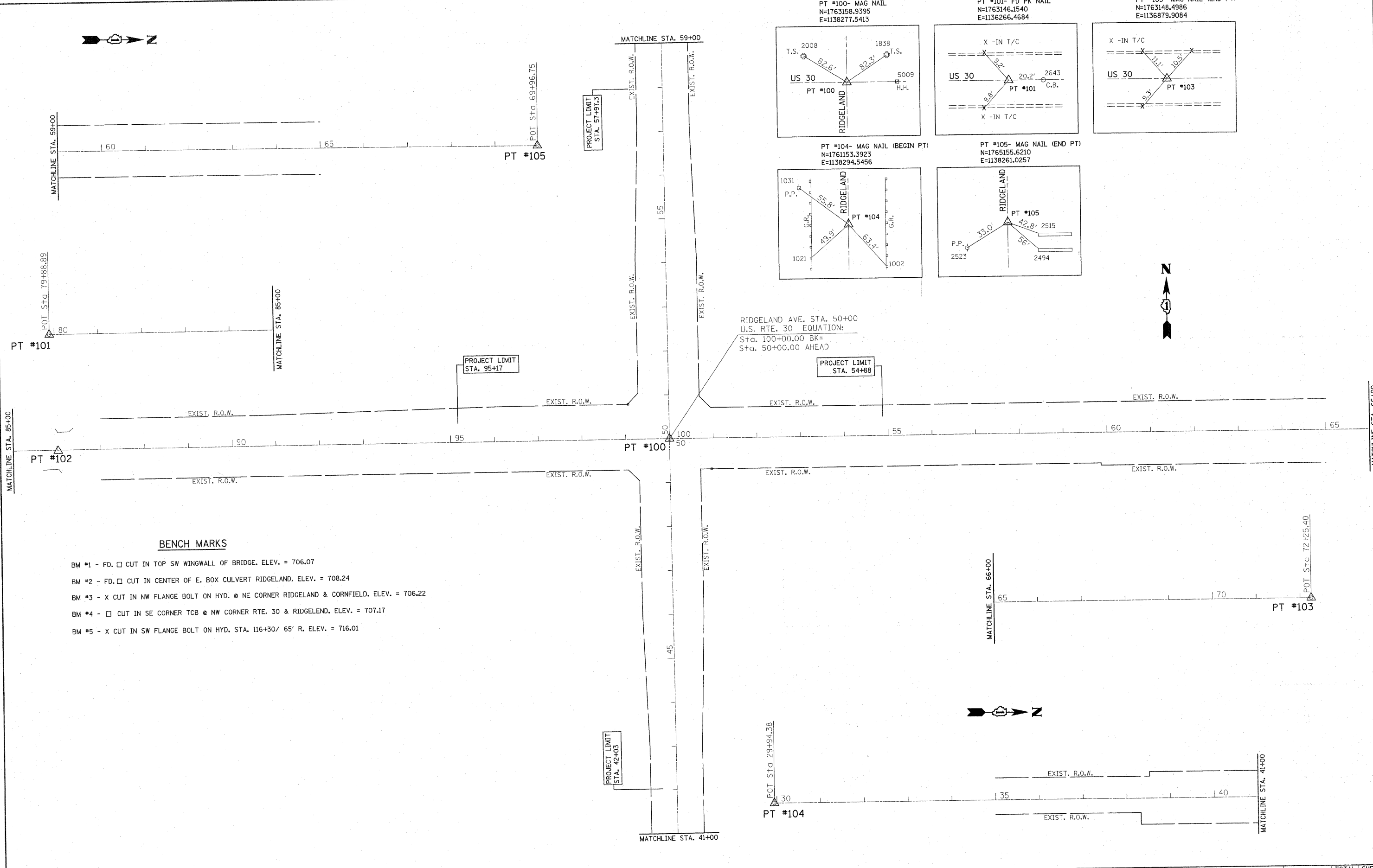
**LEGEND**

- ① EXIST. PCC BASE COURSE, 10"(±)
- ② EXIST. SUB-BASE GRANULAR MATERIAL, TYPE B, 4"
- ③ EXIST. HOT-MIX ASPHALT OVERLAY, 2 1/2"(±)
- ④ EXIST. HMA SHOULDER
- ⑤ PROP. PAVED SHOULDER REMOVAL
- ⑥ PROP. COMB. CONCRETE CURB AND GUTTER REMOVAL
- ⑦ PROP. CONCRETE MEDIAN SURFACE REMOVAL
- ⑧ PROP. HOT-MIX ASPHALT SURFACE REMOVAL, 1 3/4"
- ⑨ PROP. HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/2"
- ⑩ PROP. HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90, 1 3/4"
- ⑪ PROP. POLYMERIZED LEVELING BINDER (MM), IL-4.75, N50, 3/4"
- ⑫ PROP. CONCRETE MEDIAN SURFACE, 6"
- ⑬ PROP. CONCRETE CURB AND GUTTER, TYPE B-9.12
- ⑭ PROP. PCC BASE COURSE WIDENING, 10"
- ⑮ PROP. SUB-BASE GRANULAR MATERIAL, TYPE B, 4"
- ⑯ PROP. PAVEMENT REMOVAL
- ⑰ PROP. HOT-MIX ASPHALT SHOULDER, 10"
- ⑱ PROP. GAURDRAIL REMOVAL
- ⑲ PROP. STEEL PLATE BEAM GUARDRAIL
- ⑳ PROP. GRADING AND SHAPING DITCHES
- ㉑ PROP. NO. 6 EPOXY COATED DEFORMED BARS @ 24" CENTERS

**NOTES:**

PAVEMENT PATCHING SHALL BE DONE PRIOR TO MILLING OF THE ROADWAY.  
PAVEMENT PATCHING SHALL BE DONE ONLY ON RIDGELAND AVE.

FILE NAME =	USER NAME = shiranisb	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>US ROUTE 30 AT RIDGELAND AVENUE EXISTING AND PROPOSED TYPICAL SECTIONS</b>			F.A.P. RTE. 353	SECTION 23-N-3	COUNTY COOK	TOTAL SHEETS 38	SHEET NO. 7
get\pwwork\NPWIDOT\SHIRANISB\d8187234\F113907-Design.dgn		DRAWN -	REVISED -		SCALE: N.T.S.	SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS		CONTRACT NO. 60149	
		CHECKED -	REVISED -									
		DATE -	REVISED -									



RIDGELAND AVE. STA. 50+00  
U.S. RTE. 30 EQUATION:  
Sta. 100+00.00 BK=  
Sta. 50+00.00 AHEAD

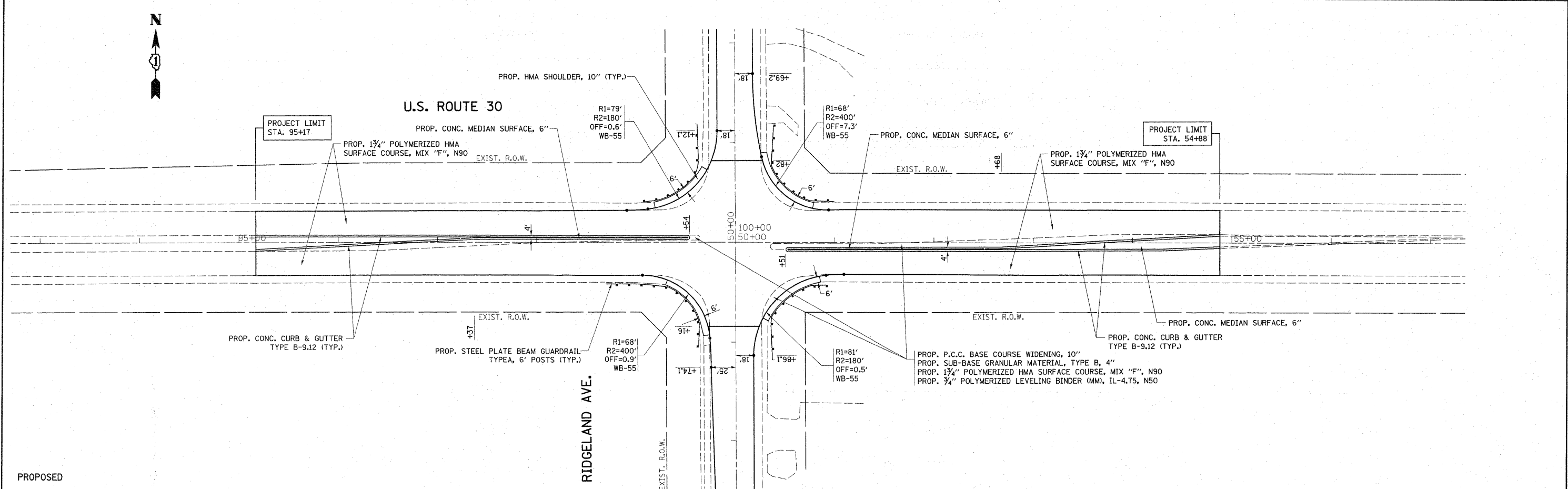
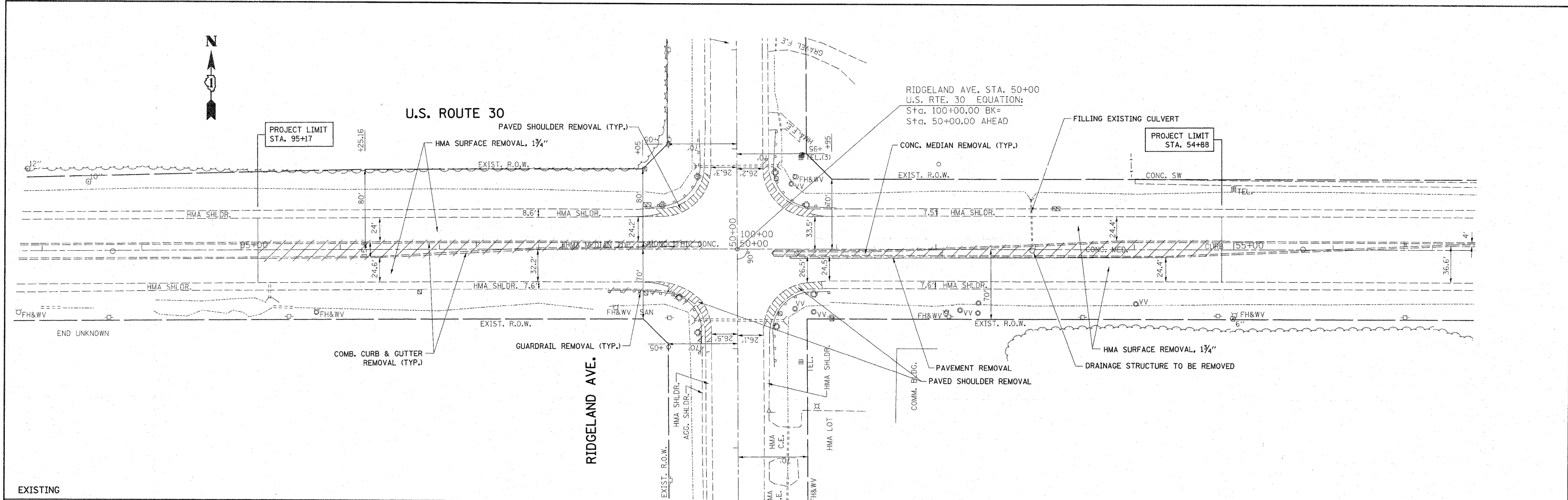


**BENCH MARKS**

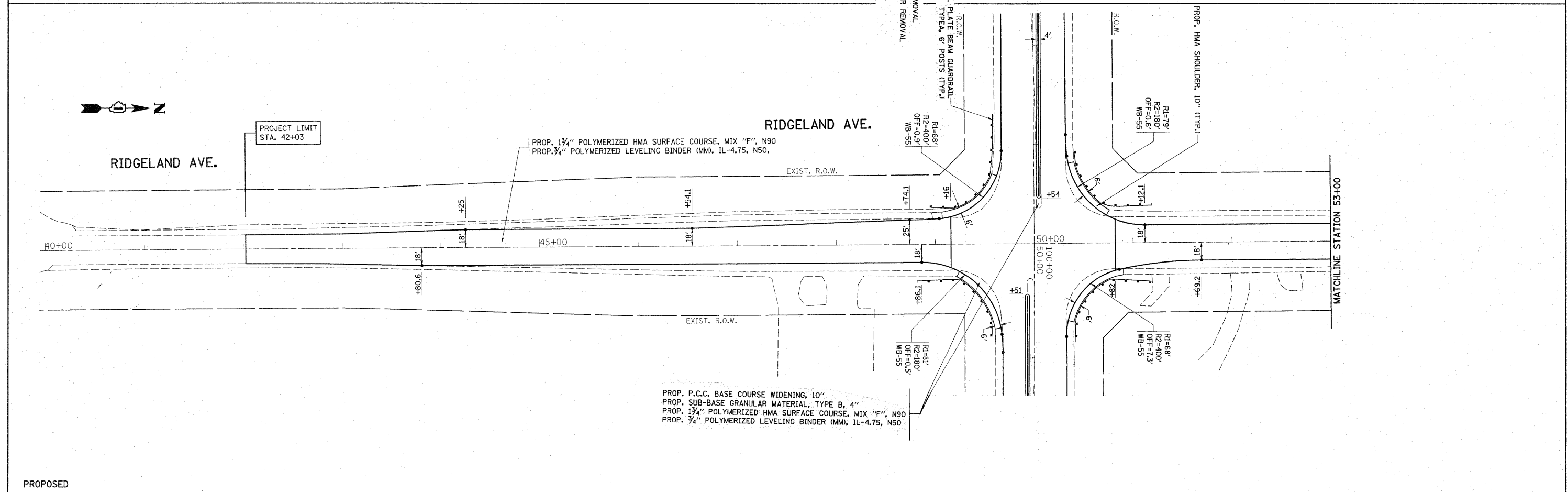
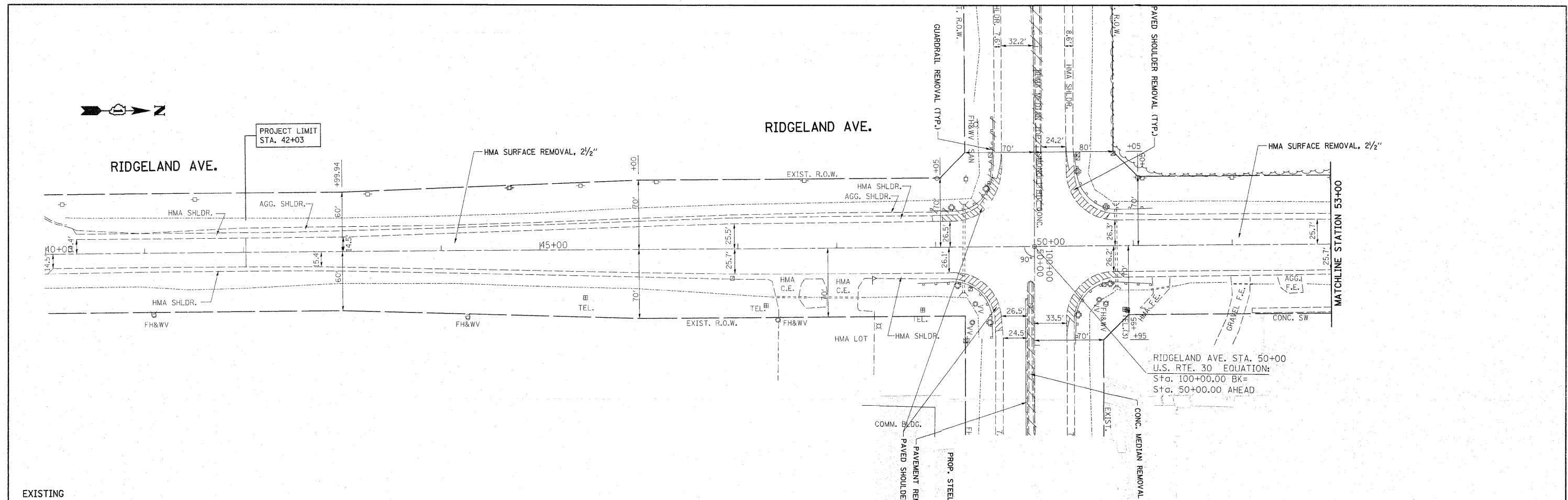
- BM #1 - FD. □ CUT IN TOP SW WINGWALL OF BRIDGE. ELEV. = 706.07
- BM #2 - FD. □ CUT IN CENTER OF E. BOX CULVERT RIDGELAND. ELEV. = 708.24
- BM #3 - X CUT IN NW FLANGE BOLT ON HYD. @ NE CORNER RIDGELAND & CORNFIELD. ELEV. = 706.22
- BM #4 - □ CUT IN SE CORNER TCB @ NW CORNER RTE. 30 & RIDGELAND. ELEV. = 707.17
- BM #5 - X CUT IN SW FLANGE BOLT ON HYD. STA. 116+30/ 65' R. ELEV. = 716.01

FILE NAME = c:\pw_work\p\w\DOT\BAUER\DL\0107256\p113	USER NAME = bauerdl	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ALIGNMENT, TIES &amp; BENCHMARK PLAN U.S. ROUTE 30 AT RIDGELAND AVE.</b>			F.A.P. RTE. 353	SECTION 23-N-3	COUNTY COOK	TOTAL SHEETS 38	SHEET NO. 8
	PLOT SCALE = 100.0000' / IN.	CHECKED -	REVISED -					SCALE: 1"=100'			SHEET NO. OF SHEETS STA. TO STA.	
PLOT DATE = 10/20/2009	DATE -	REVISED -	REVISED -									

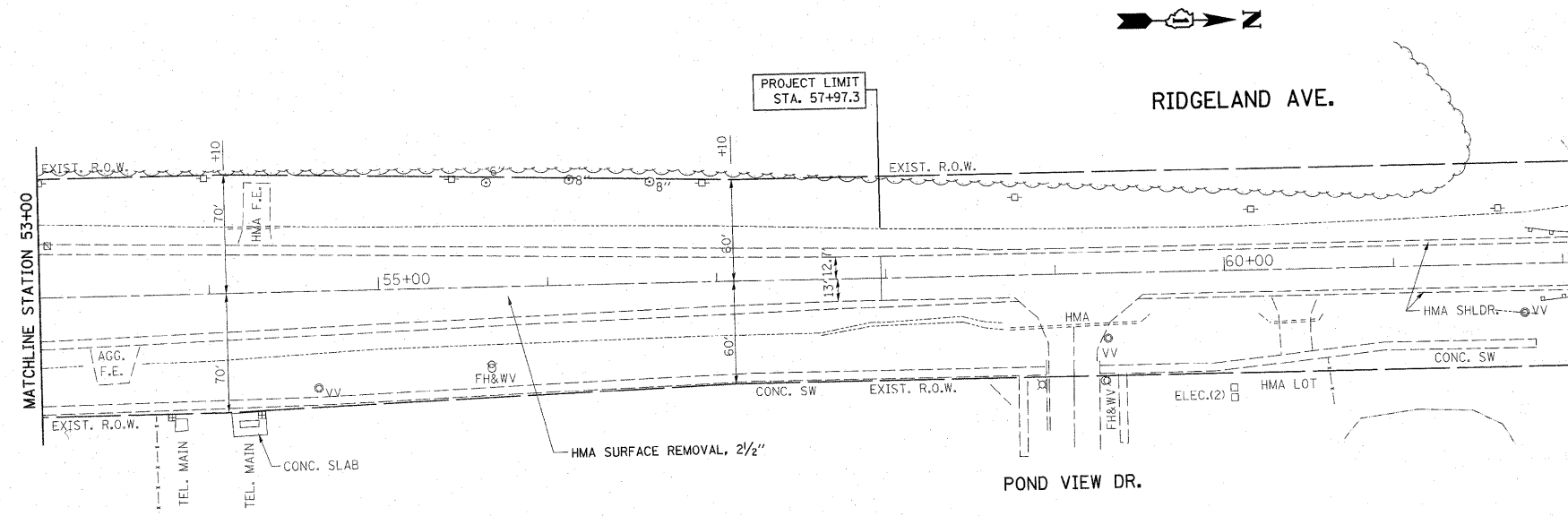




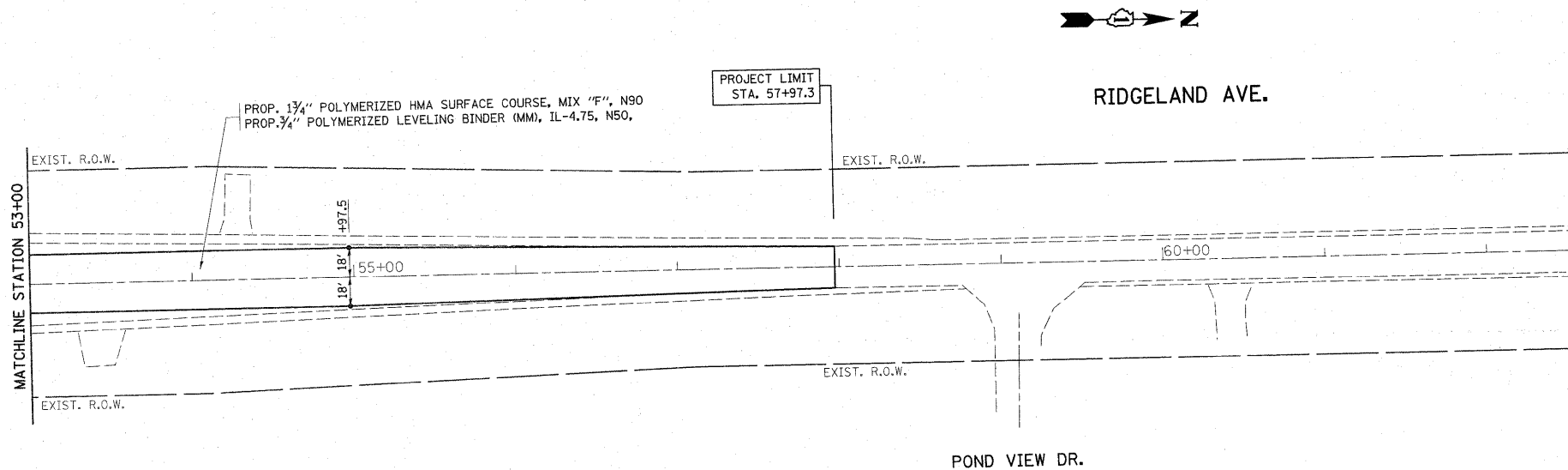
FILE NAME =	USER NAME = leysa	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ROADWAY PLAN U.S. 30 @ RIDGELAND AVE.</b>		F.A.P. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
es:\pw\work\p\WIDOT\LEYSA\d0187256\P11390	-sht-plnpr.f.dgn	DRAWN -	REVISED -		353	23-N-3	COOK	38	9	CONTRACT NO. 60149		
PLOT SCALE = 50.0000' / 1"		CHECKED -	REVISED -		SCALE: 1"=50'		SHEET NO. OF SHEETS		STA. 95+17 TO STA. 54+88		ILLINOIS FED. AID PROJECT	
PLOT DATE = 3/10/2010		DATE -	REVISED -									



FILE NAME =	USER NAME = bauerdl	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ROADWAY PLAN U.S. 30 @ RIDGELAND AVE.</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\PMIDOT\BAUERDL\d0107256\p113907-ahf-p1nprf.dgn	PLT SCALE = 50.0000' / IN.	DRAWN -	REVISED -		SCALE: 1"=50'	SHEET NO. OF SHEETS	STA. 42+03 TO STA. 53+00	353	23-N-3	COOK	38	10
PLT DATE = 2/25/2010	DATE -	REVIS -	REVIS -					CONTRACT NO. 60149				
					ILLINOIS FED. AID PROJECT							



EXISTING



PROPOSED

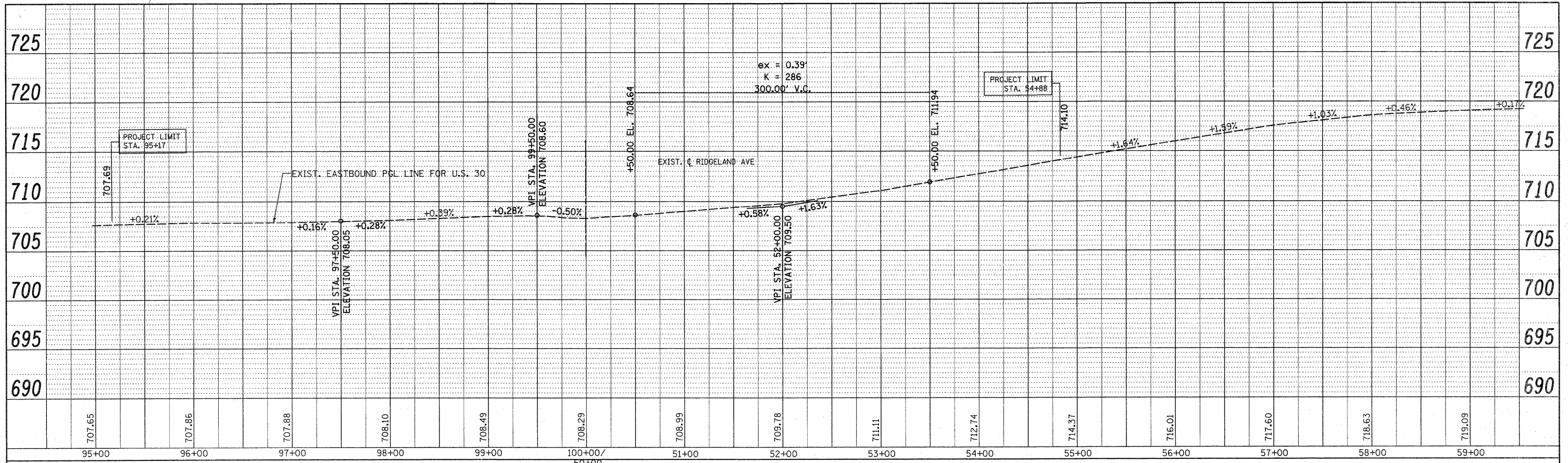
FILE NAME =	USER NAME = bauerdl	DESIGNED -	REVISED -
ot\pwwork\PW100T\BAUERDL\0107256\PI11307-shr\p1nprf.dgn		DRAWN -	REVISED -
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -
PLOT DATE = 2/25/2010		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

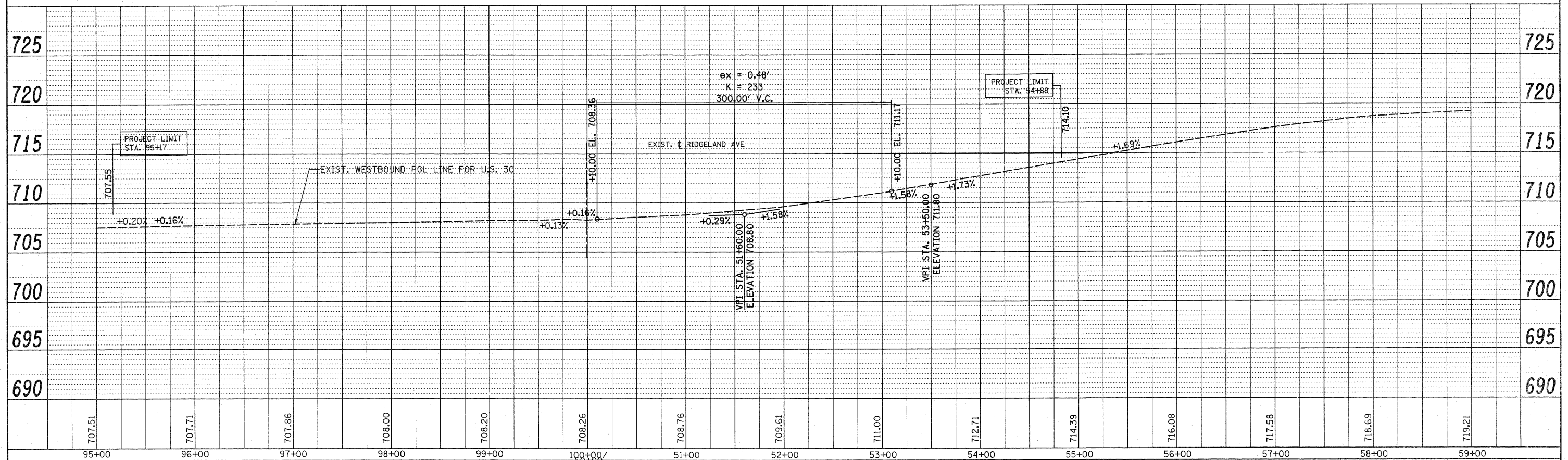
<b>ROADWAY PLAN</b>			
<b>U.S. 30 @ RIDGELAND AVE.</b>			
SCALE: 1"=50'	SHEET NO. OF	SHEETS	STA. 53+00 TO STA. 57+97.3

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	38	11
CONTRACT NO. 60149				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS OK'D	
	NOTE BOOK	
	NO.	
	CADD FILE NAME	



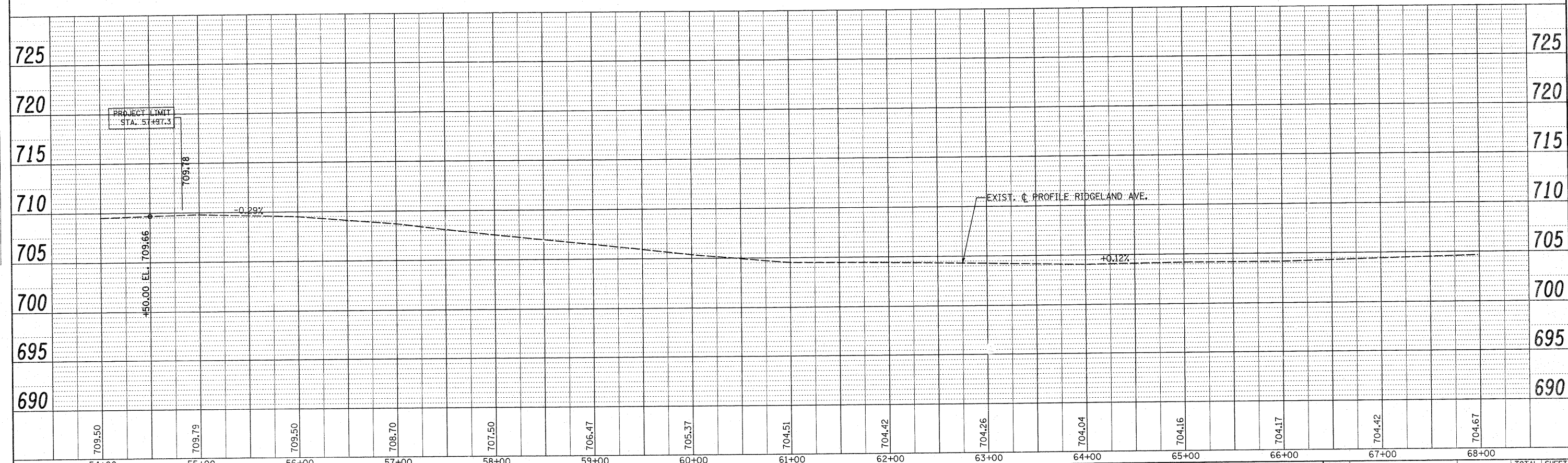
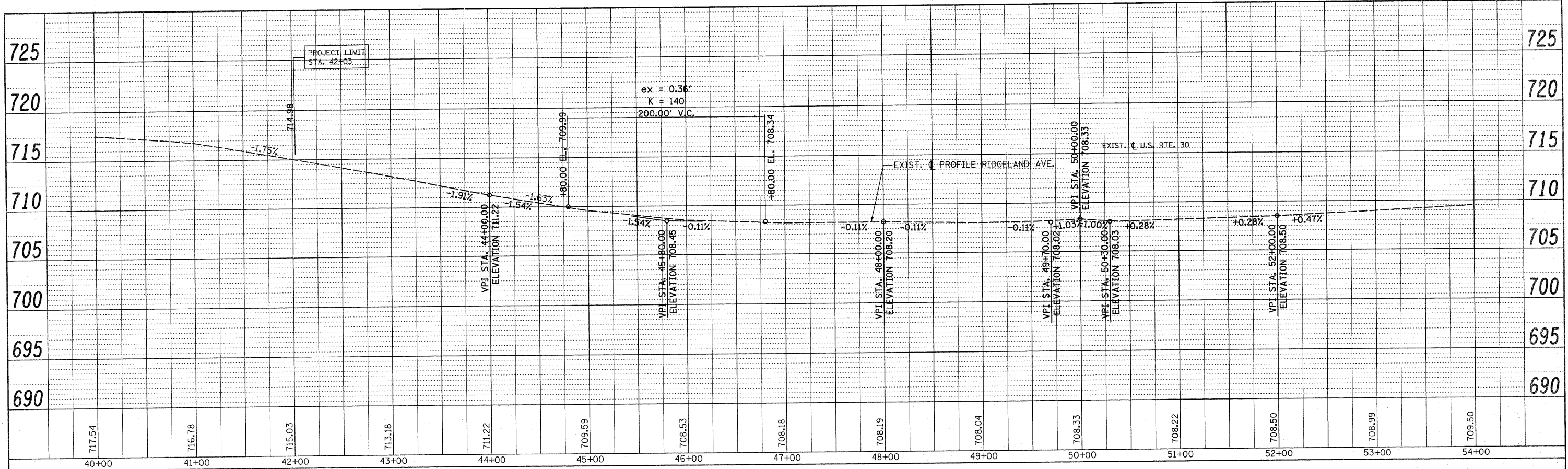
PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS OK'D	
	NOTE BOOK	
	NO.	
	CADD FILE NAME	



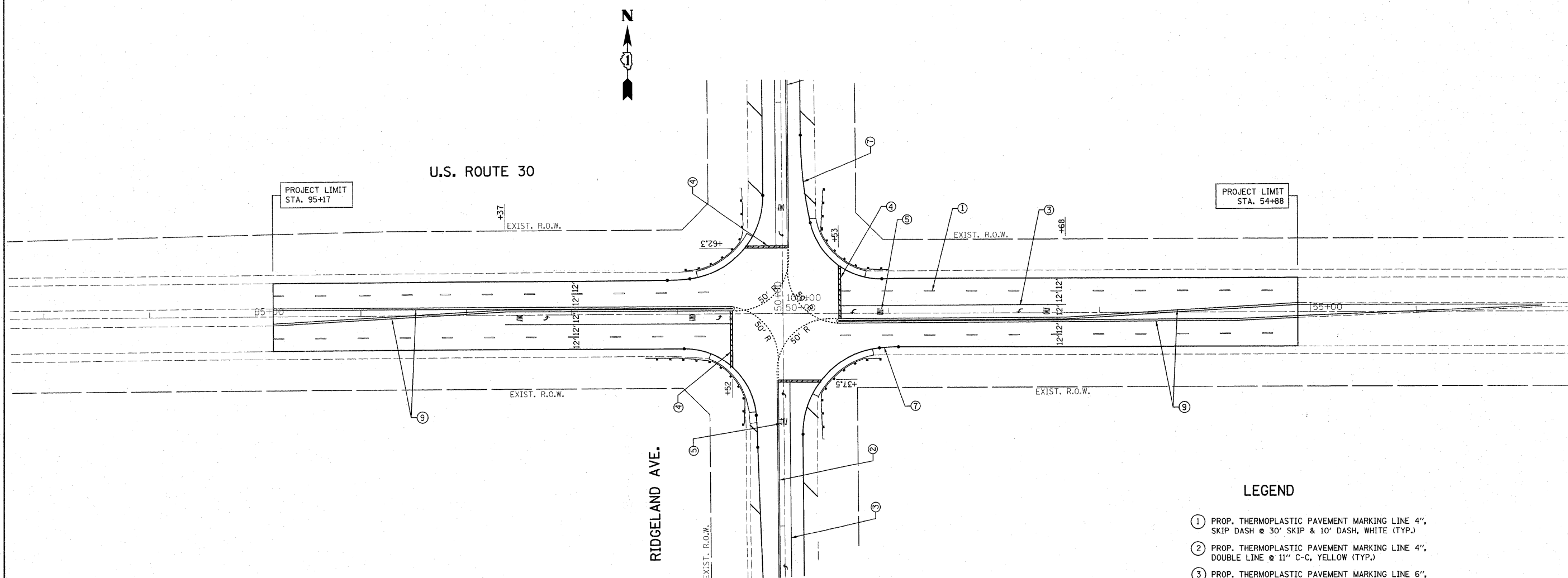
FILE NAME =	USER NAME = leysa	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>U.S. RTE. 30 EASTBOUND &amp; WESTBOUND PGL</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\leysa\08107255\sh_rdwjden		DRAWN -	REVISED -		0353	23-N-3	COOK	38	12		
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -		CONTRACT NO.						
PLOT DATE = 7/16/2009		DATE -	REVISED -		SCALE: 1"=50'			SHEET NO. 5 OF 6 SHEETS		STA. TO STA.	
					FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT			
					CONTRACT NO.			CONTRACT NO.			

PLAN	SURVEYED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	RT. OF WAY CHECKED		
	NO. _____		
	CADD FILE NAME		

PROFILE	REVIEWED	BY	DATE
	PLOTTED		
	GRADES CHECKED		
	BLM. NOTED		
	NO. _____		
	STRUCTURE NOTATIONS CHKD		

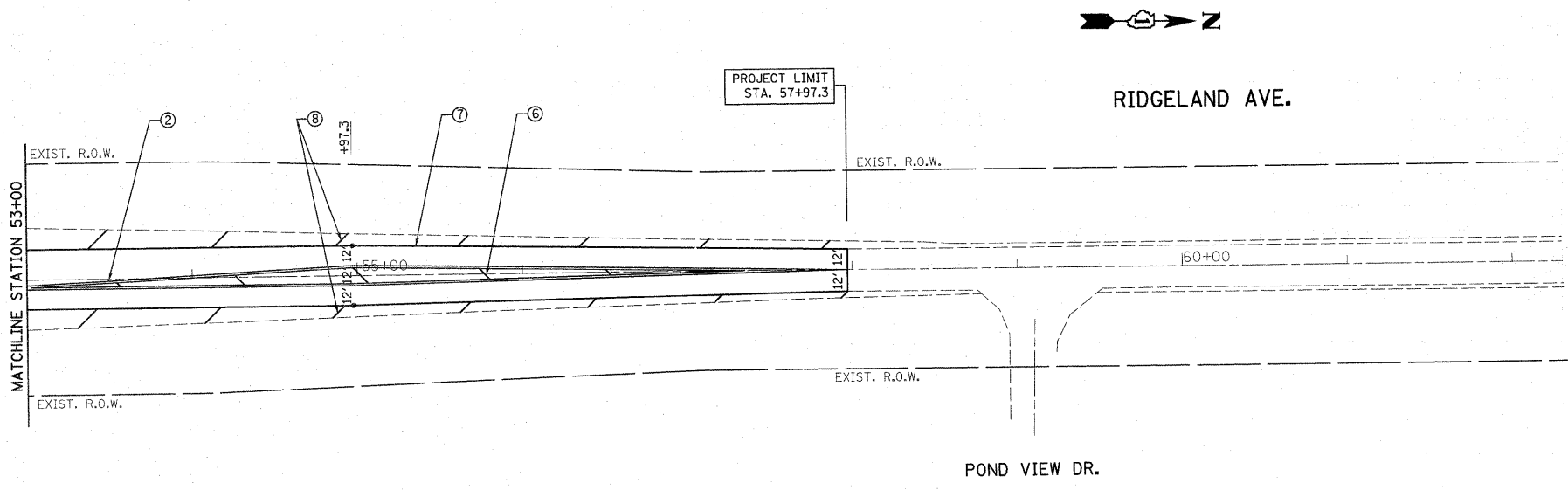
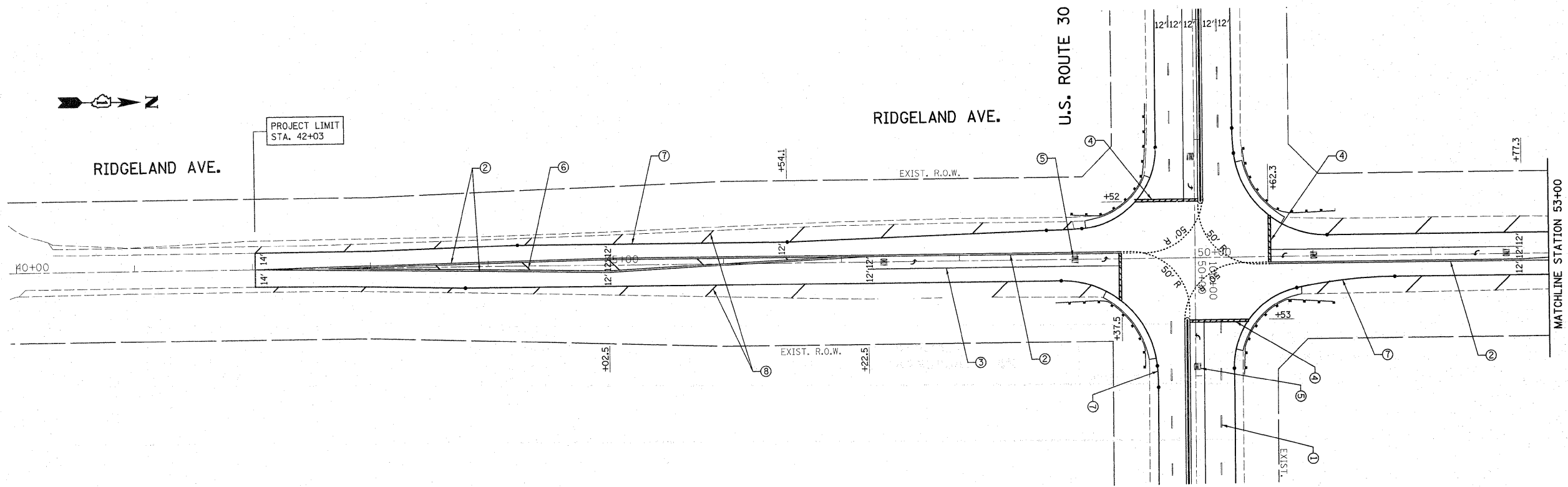


FILE NAME =	USER NAME = jayso	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>RIDGELAND AVE. PROFILE</b>		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pw\work\p\dot\jayso\48187256\eh_rdy.dgn		DRAWN -	REVISED -		SCALE: 1"=50'	SHEET NO. 6 OF 6 SHEETS	STA.	TO STA.	2785	23-μ-3	COOK	38
		CHECKED -	REVISED -						CONTRACT NO.			
		DATE -	REVISED -						ILLINOIS FED. AID PROJECT			



- LEGEND**
- ① PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", SKIP DASH @ 30' SKIP & 10' DASH, WHITE (TYP.)
  - ② PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", DOUBLE LINE @ 11" C-C, YELLOW (TYP.)
  - ③ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 6", TURN LANE, WHITE (TYP.)
  - ④ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 24", STOP BAR, WHITE (TYP.)
  - ⑤ PROP. THERMOPLASTIC PAVEMENT MARKING LETTERS & SYMBOLS, WHITE (TYP.)
  - ⑥ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 12", DIAGONALS @ 45°, YELLOW (TYP.)
  - ⑦ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", EDGE LINES, WHITE (TYP.)
  - ⑧ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 12", SHOULDER DIAGONALS @ 45°, WHITE (TYP.)
  - ⑨ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", EDGE LINES, YELLOW (TYP.)

FILE NAME =	USER NAME = bouerd1	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT MARKING PLAN U.S. 30 @ RIDGELAND AVE.</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca\pwork\pwork\BAUERDL\d0107256\p113	07-shh-plnprf.dgn	DRAWN -	REVISED -			353	23-N-3	COOK	38	14	
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 60149					
PLOT DATE = 2/25/2010		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: 1"=50'	SHEET NO. OF SHEETS		STA. 95+17 TO STA. 54+88			



**LEGEND**

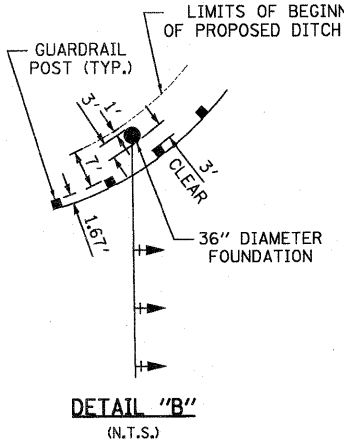
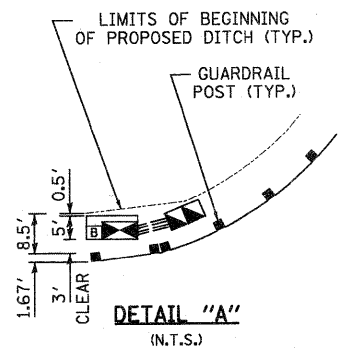
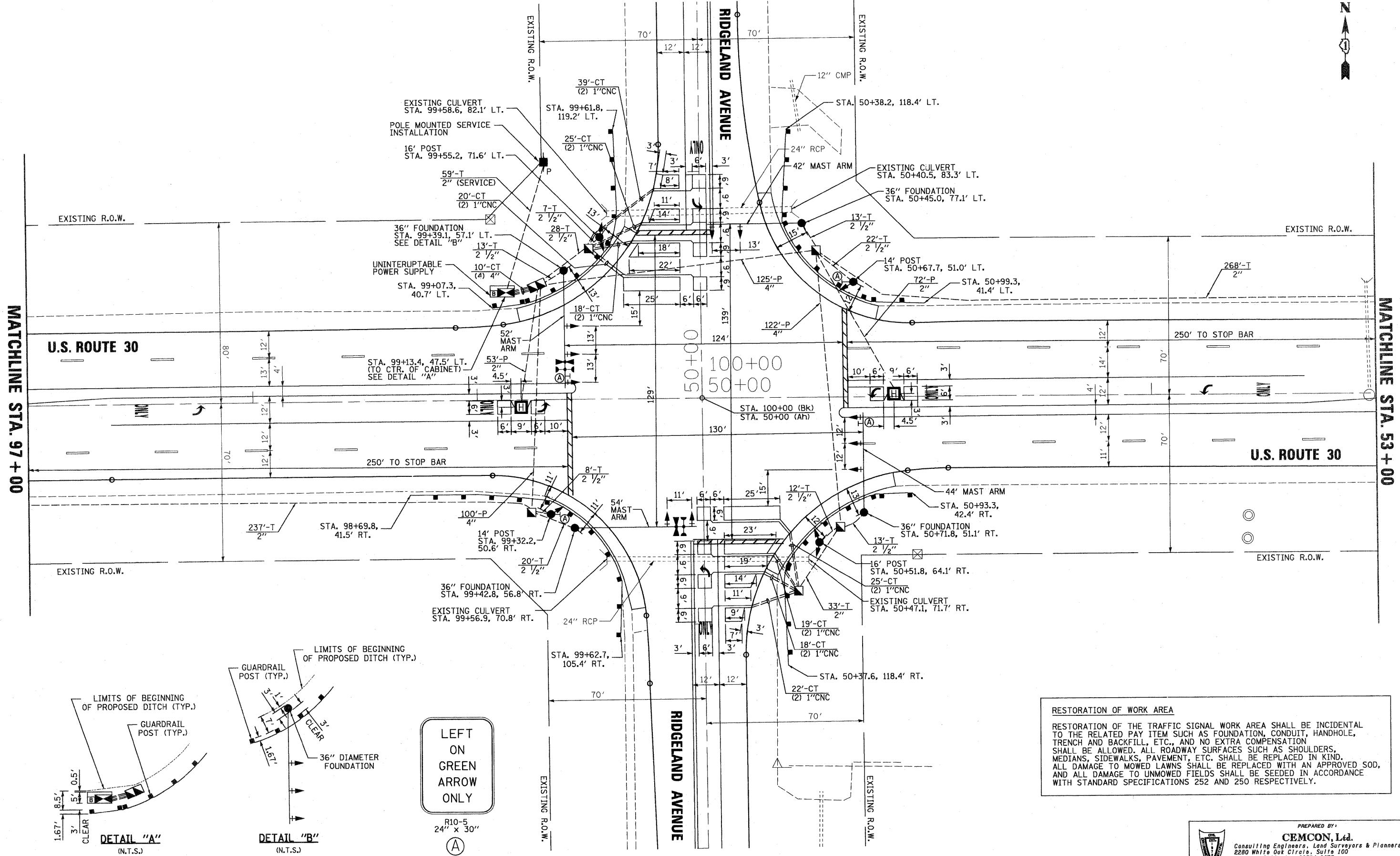
- ① PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", SKIP DASH @ 30' SKIP & 10' DASH, WHITE (TYP.)
- ② PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", DOUBLE LINE @ 11" C-C, YELLOW (TYP.)
- ③ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 6", TURN LANE, WHITE (TYP.)
- ④ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 24", STOP BAR, WHITE (TYP.)
- ⑤ PROP. THERMOPLASTIC PAVEMENT MARKING LETTERS & SYMBOLS, WHITE (TYP.)
- ⑥ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 12", DIAGONALS @ 45°, YELLOW (TYP.)
- ⑦ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", EDGE LINES, WHITE (TYP.)
- ⑧ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 12", SHOULDER DIAGONALS @ 45°, WHITE (TYP.)
- ⑨ PROP. THERMOPLASTIC PAVEMENT MARKING LINE 4", EDGE LINES, YELLOW (TYP.)

FILE NAME =	USER NAME = bauerdl	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT MARKING PLAN U.S. 30 @ RIDGELAND AVE.</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
et\pwwork\NPWIDOT\BAUERDL\d0187256\PI13	07-sht-p\inprf.dgn	DRAWN -	REVISED -			353	23-N-3	COOK	38	15	
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 60149					
PLOT DATE = 2/25/2010		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: 1"=50'	SHEET NO. OF SHEETS		STA. 42+03 TO STA. 57+97.3			



MATCHLINE STA. 97 + 00

MATCHLINE STA. 53 + 00



LEFT  
ON  
GREEN  
ARROW  
ONLY

R10-5  
24" x 30"

**RESTORATION OF WORK AREA**

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

PREPARED BY:  
**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
2280 White Oak Circle, Suite 100  
Aurora, Illinois 60504-9875  
PH: 630.862.2100 Fax: 630.862.2199  
E-Mail: cadd@cemcon.com Website: www.cemcon.com

FILE NAME =  
MICROST\352083\

USER NAME = RDS  
PLOT SCALE = 1"=20'  
PLOT DATE = 11-06-09

DESIGNED - KK  
DRAWN - RDS  
CHECKED - BPT  
DATE - 12-18-09

REVISED -  
REVISED -  
REVISED -  
REVISED -

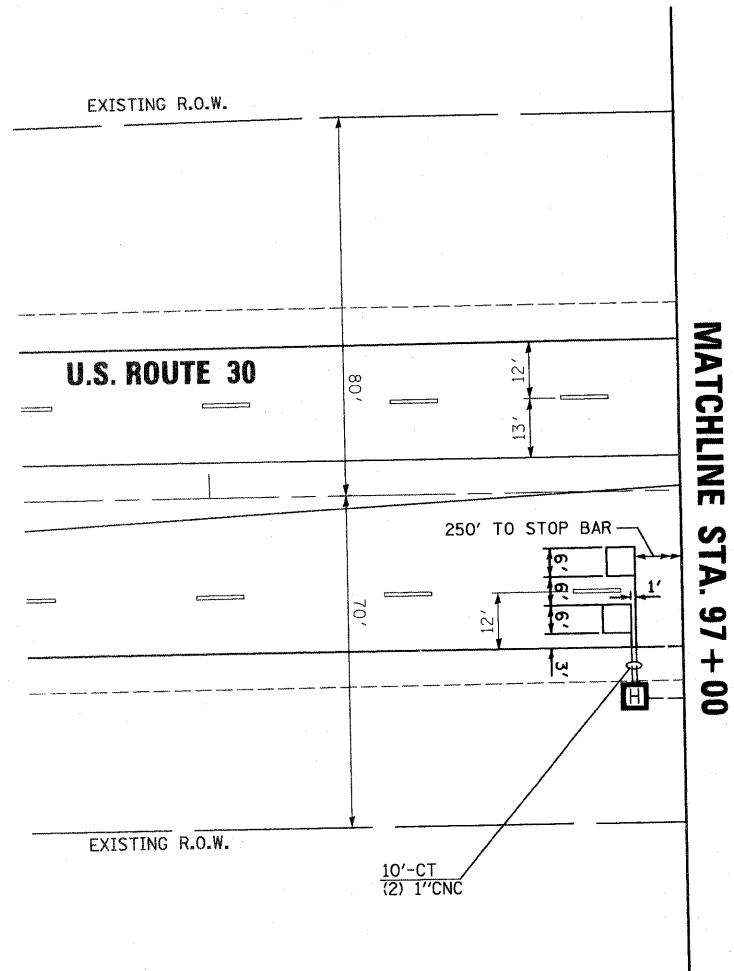
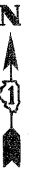
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL INSTALLATION PLAN  
U.S. ROUTE 30 AT RIDGELAND AVENUE

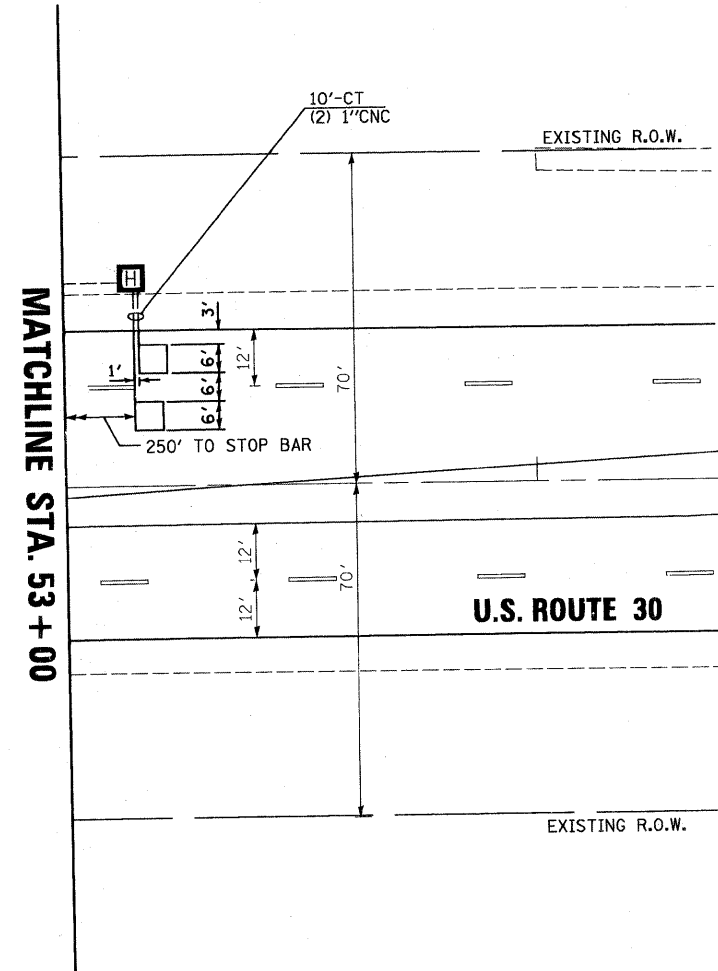
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	39	16
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60149	





MATCHLINE STA. 97 + 00



MATCHLINE STA. 53 + 00

**RESTORATION OF WORK AREA**

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

FILE NAME = MICROSTV352083\	USER NAME = RDS	DESIGNED - KK	REVISED -
		DRAWN - RDS	REVISED -
		CHECKED - BPT	REVISED -
		DATE - 12-18-09	REVISED -

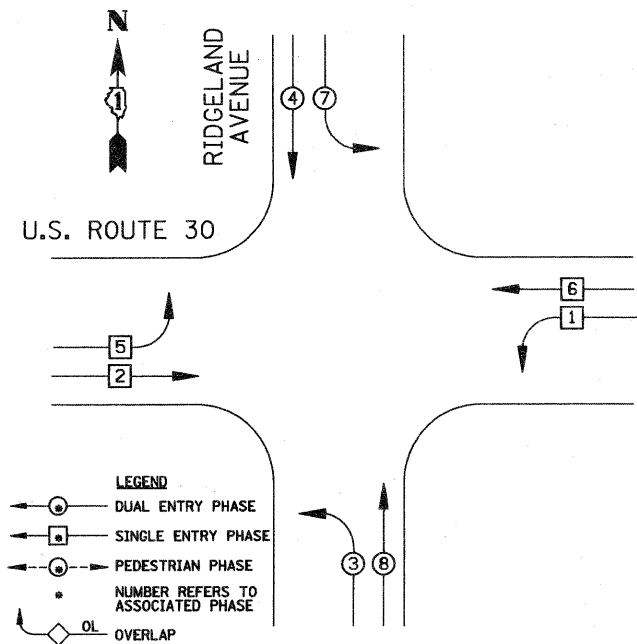
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL INSTALLATION PLAN  
U.S. ROUTE 30 AT RIDGELAND AVENUE**

SCALE: N.T.S.    SHEET NO.    OF    SHEETS    STA.    TO    STA.

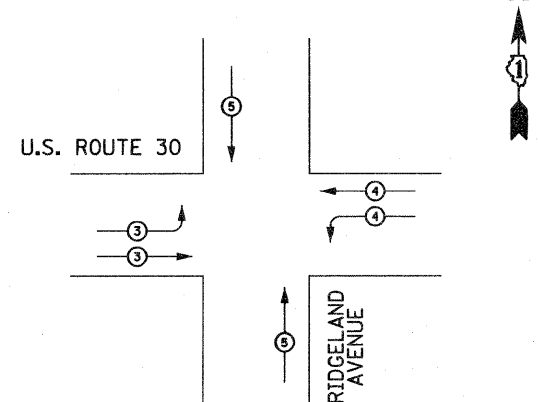
PREPARED BY:			
<b>CEMCON, Ltd.</b>			
<small>Consulting Engineers, Land Surveyors &amp; Planners 2280 White Oak Circle, Suite 100 Aurora, Illinois 60504-9675 Ph: 630.862.2100 Fax: 630.862.2199 E-Mail: cadd@cemcon.com Website: www.cemcon.com</small>			
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS
353	23-N-3	COOK	38
			SHEET NO.
			17
CONTRACT NO. 60149			
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTOR				
EMERGENCY VEHICLE PREEMPTOR	3	4	5	
MOVEMENT				

SCHEDULE OF QUANTITIES

SIGN PANEL, TYPE 1	SQ FT	20
RELOCATE SIGN PANEL, TYPE 1	FOOT	33
CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	FOOT	597
CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	136
CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	40
CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	FOOT	125
CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	347
TRENCH AND BACKFILL FOR ELECTRICAL WORK	FOOT	743
FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	338
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2557
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	864
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C	FOOT	73
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1898
HANDHOLE	EACH	5
HEAVY DUTY HANDHOLE	EACH	4
DOUBLE HANDHOLE	EACH	1
TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	2
STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 54 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	16
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	56
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2
SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED	EACH	2
TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	10
INDUCTIVE LOOP DETECTOR	EACH	8
DETECTOR LOOP, TYPE 1	FOOT	1074
LIGHT DETECTOR	EACH	2
LIGHT DETECTOR AMPLIFIER	EACH	1
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	4479
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	11
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
SERVICE INSTALLATION, POLE MOUNT	EACH	1
ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C	FOOT	644
ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED & SHIELDED	FOOT	338
UNINTERRUPTIBLE POWER SUPPLY	EACH	1

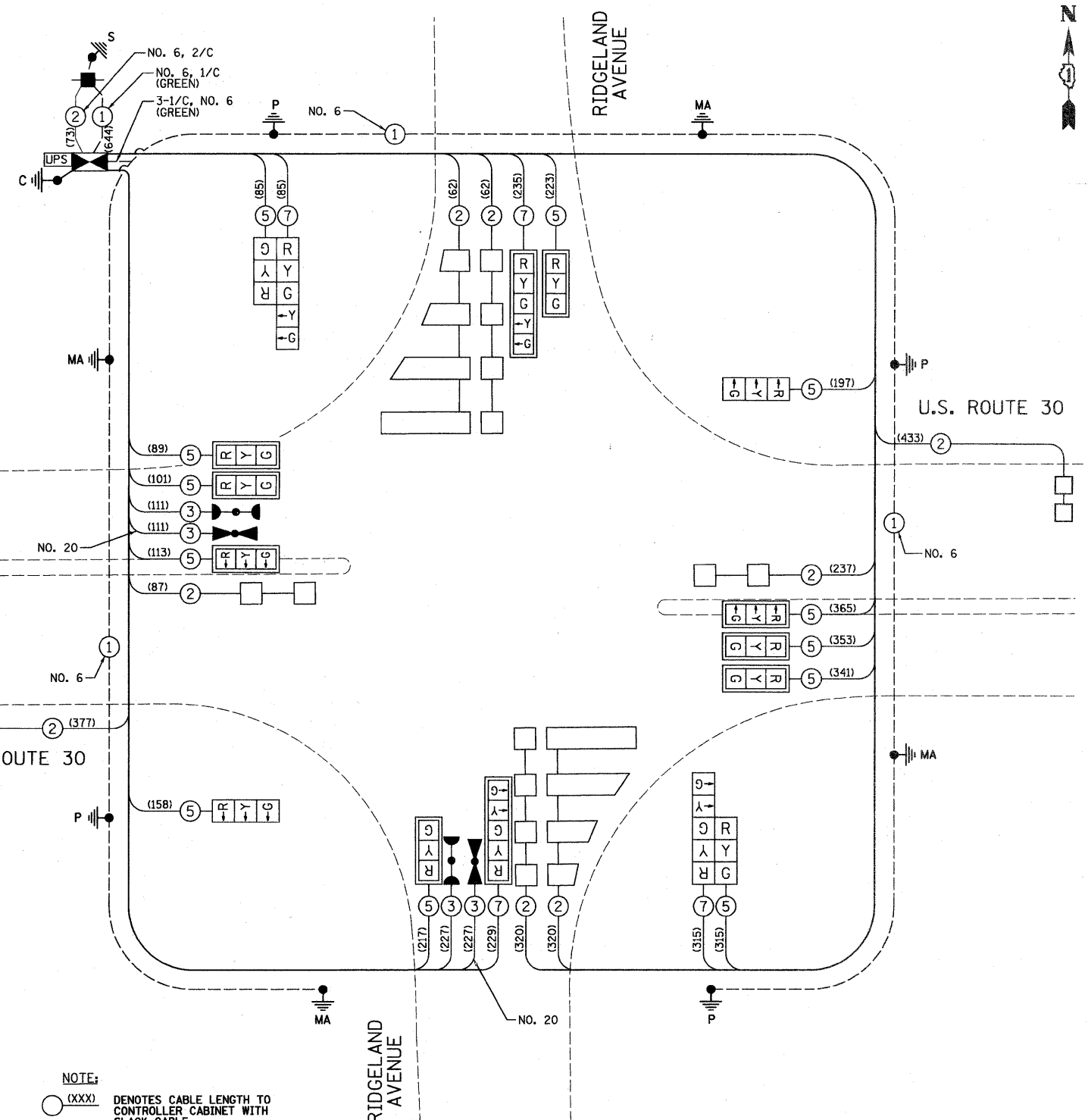
\* 100% COST TO THE VILLAGE OF MATTESON

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE INCAND.	LED	%OPERATION	
SIGNAL (RED)	16	135	17	0.50	136
(YELLOW)	16	135	25	0.25	100
(GREEN)	16	135	15	0.25	60
ARROW	8	135	12	0.10	9.6
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN	-	84	-	0.05	-
FLASHER	-	-	-	0.50	-
ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION 201 W. CENTER COURT SCHAUMBURG, IL 60196					TOTAL = 405.6
ENERGY SUPPLY CONTACT: COMED					

FILE NAME = \MICROST\352083\	USER NAME = RDS	DESIGNED - KK	REVISED -
		DRAWN - RDS	REVISED -
		CHECKED - BPT	REVISED -
		DATE - 12-18-09	REVISED -
		PLOT SCALE = 1"=20'	
		PLOT DATE = 11-06-09	

SQ FT	20
FOOT	33
FOOT	597
FOOT	136
FOOT	40
FOOT	125
FOOT	347
FOOT	743
EACH	1
FOOT	338
FOOT	2557
FOOT	864
FOOT	73
FOOT	1898
EACH	5
EACH	4
EACH	1
EACH	2
EACH	2
EACH	1
EACH	1
EACH	1
EACH	1
FOOT	16
FOOT	4
FOOT	56
EACH	8
EACH	2
EACH	2
EACH	2
EACH	10
EACH	8
EACH	2
EACH	1
FOOT	4479
EACH	1
EACH	11
EACH	9
EACH	1
EACH	1
FOOT	644
FOOT	338
EACH	1



NOTE: (XXX) DENOTES CABLE LENGTH TO CONTROLLER CABINET WITH SLACK CABLE.

CABLE PLAN

RESTORATION OF WORK AREA  
RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND, AND ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

PREPARED BY:  
**CEMCON, Ltd.**  
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	38	18
				CONTRACT NO. 60149
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

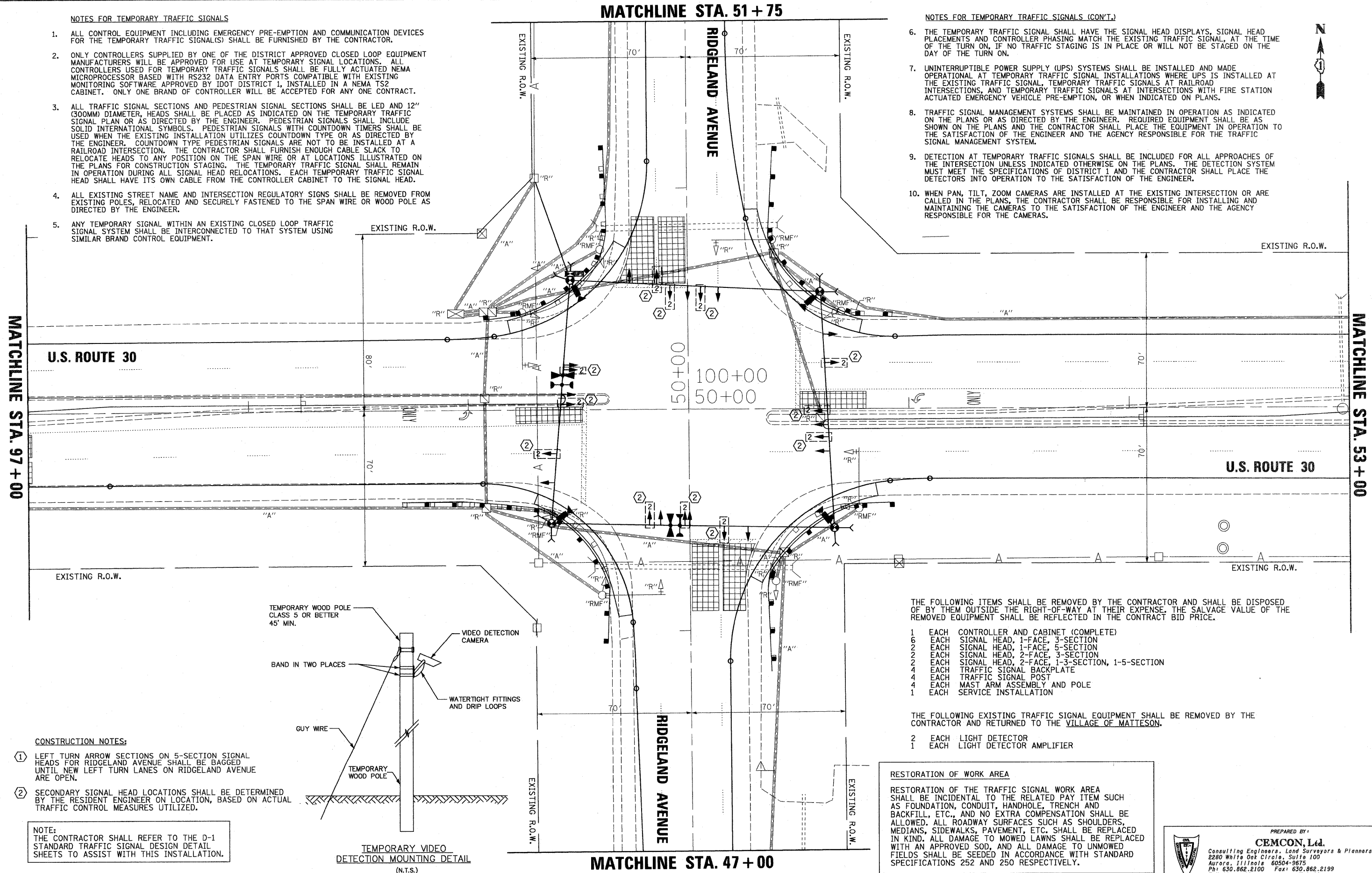
SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION  
U.S. ROUTE 30 AT RIDGELAND AVENUE  
SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE LED AND 12" (300MM) DIAMETER, HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.

NOTES FOR TEMPORARY TRAFFIC SIGNALS (CON'T.)

6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON. IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.
7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON PLANS.
8. TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
9. DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
10. WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.



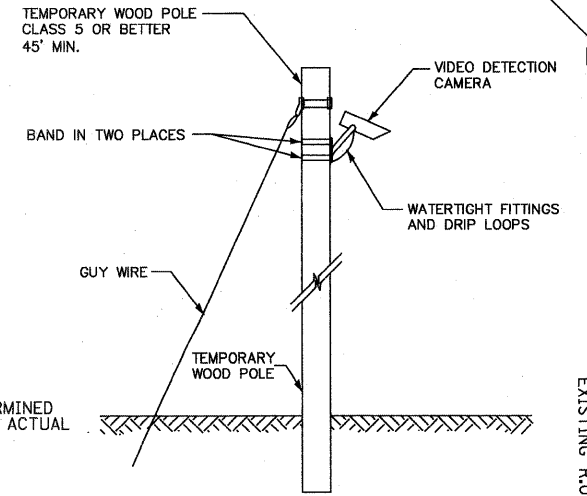
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 6 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3-SECTION, 1-5-SECTION
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH TRAFFIC SIGNAL POST
- 4 EACH MAST ARM ASSEMBLY AND POLE
- 1 EACH SERVICE INSTALLATION

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR AND RETURNED TO THE VILLAGE OF MATTESON.

- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER

**RESTORATION OF WORK AREA**  
 RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



- CONSTRUCTION NOTES:**
- 1 LEFT TURN ARROW SECTIONS ON 5-SECTION SIGNAL HEADS FOR RIDGELAND AVENUE SHALL BE BAGGED UNTIL NEW LEFT TURN LANES ON RIDGELAND AVENUE ARE OPEN.
  - 2 SECONDARY SIGNAL HEAD LOCATIONS SHALL BE DETERMINED BY THE RESIDENT ENGINEER ON LOCATION, BASED ON ACTUAL TRAFFIC CONTROL MEASURES UTILIZED.

NOTE: THE CONTRACTOR SHALL REFER TO THE D-1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL SHEETS TO ASSIST WITH THIS INSTALLATION.

FILE NAME = MICROST\352083\	USER NAME = RDS	DESIGNED - KK	REVISED -
RTE 30 @ RIDGELAND TEMP SIG.DGN	PLOT SCALE = 1"=20'	DRAWN - RDS	REVISED -
	PLOT DATE = 11-06-09	CHECKED - BPT	REVISED -
		DATE - 12-18-09	REVISED -

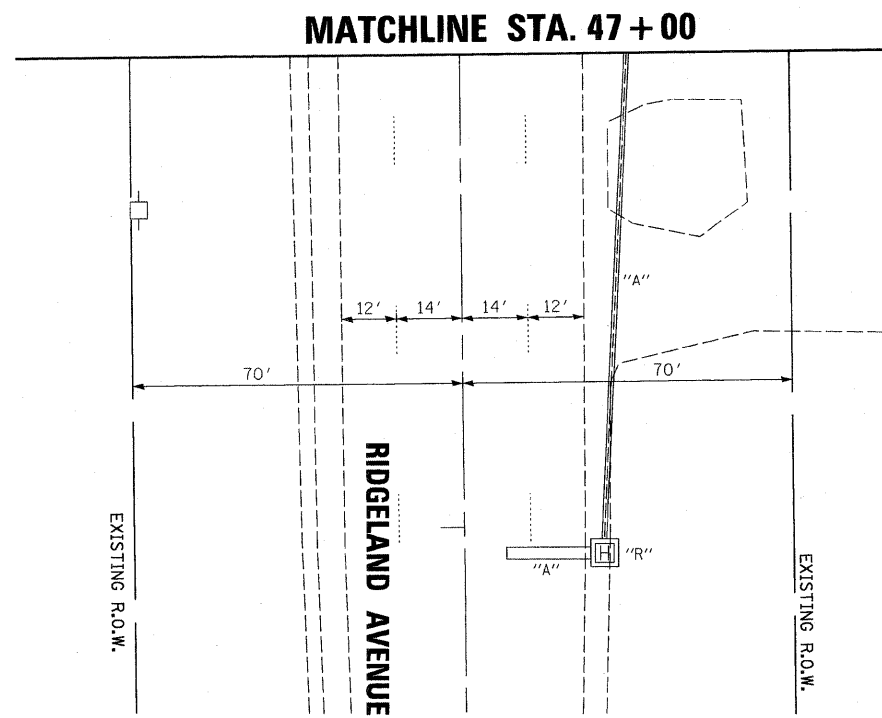
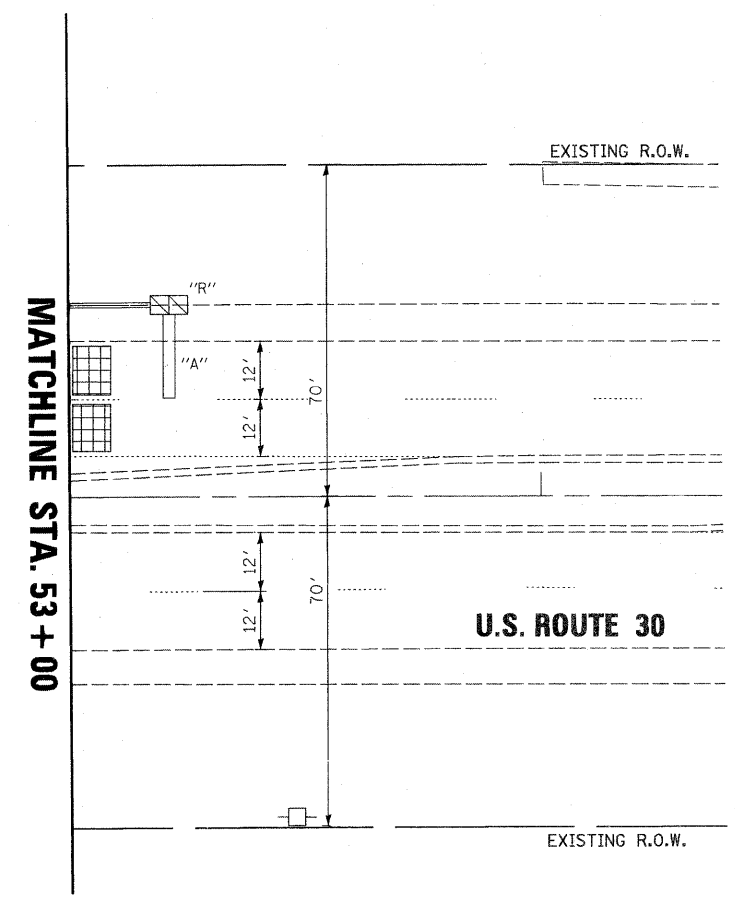
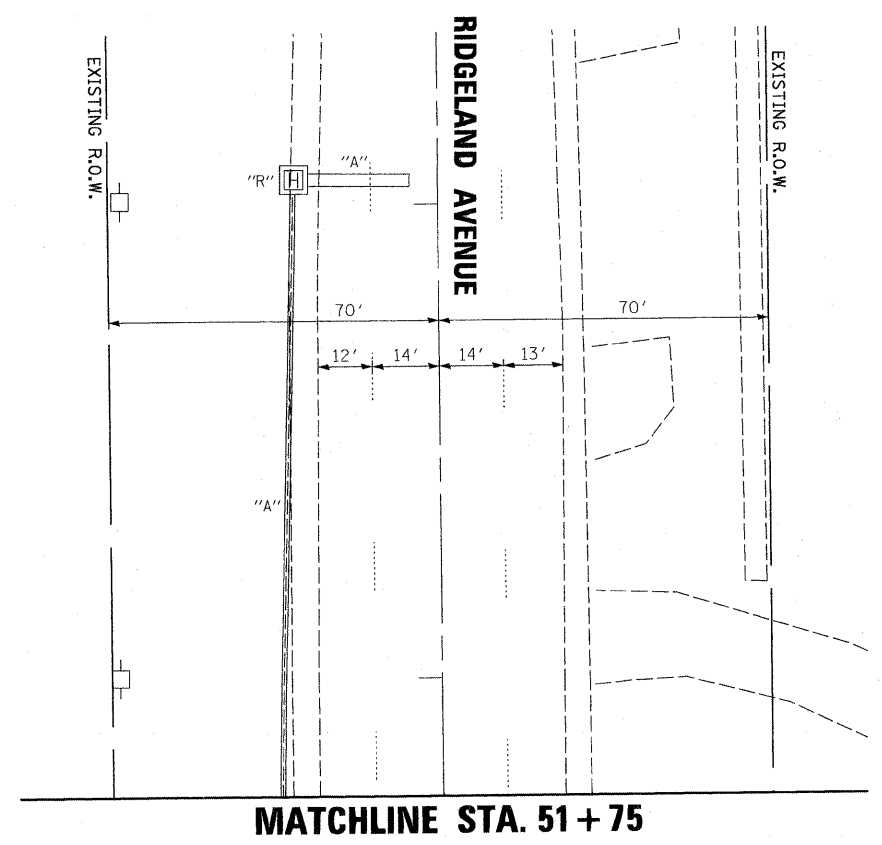
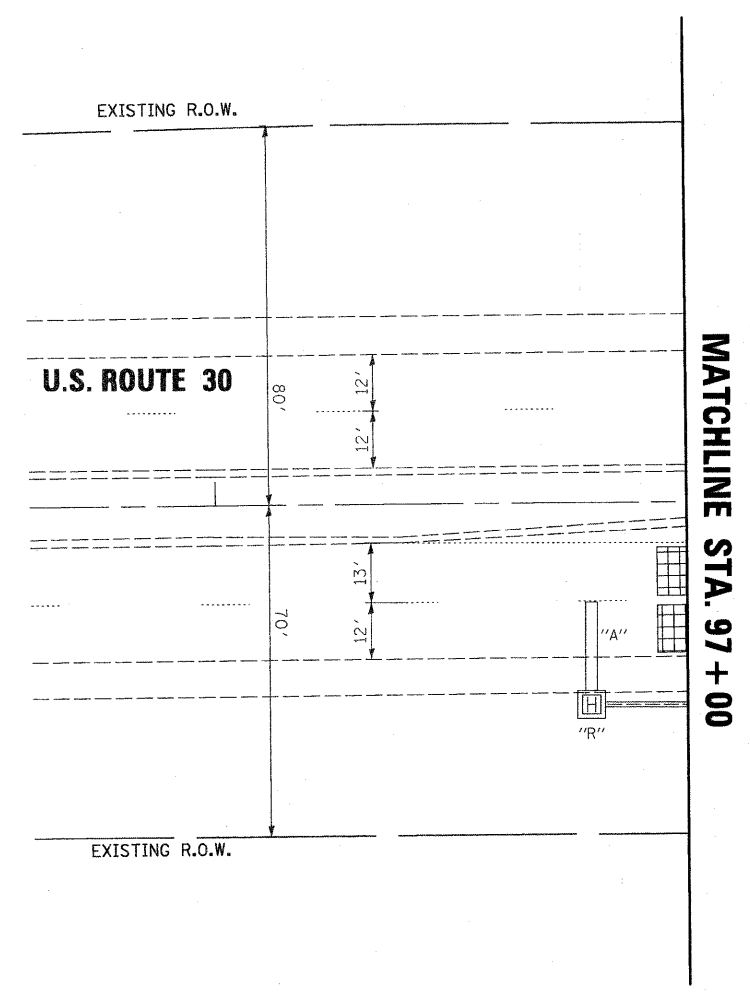
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN  
 U.S. ROUTE 30 AT RIDGELAND AVENUE

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

PREPARED BY:  
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F.A.P. RTE. 353	SECTION 23-N-3	COUNTY COOK	TOTAL SHEETS 38	SHEET NO. 19
FED. ROAD DIST. NO. ILLINOIS			FED. AID PROJECT CONTRACT NO. 60149	



**RESTORATION OF WORK AREA**

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

NOTE:  
THE CONTRACTOR SHALL REFER TO THE D-1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL SHEETS TO ASSIST WITH THIS INSTALLATION.

PREPARED BY:  
**CEMCON, Ltd.**  
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FILE NAME = MICROST\352083\	USER NAME = RDS	DESIGNED - KK	REVISED -
RTE 30 @ RIDGELAND TEMP SIG 2.DGN	PLOT SCALE = 1"=20'	DRAWN - RDS	REVISED -
	PLOT DATE = 11-06-09	CHECKED - BPT	REVISED -
		DATE - 12-18-09	REVISED -

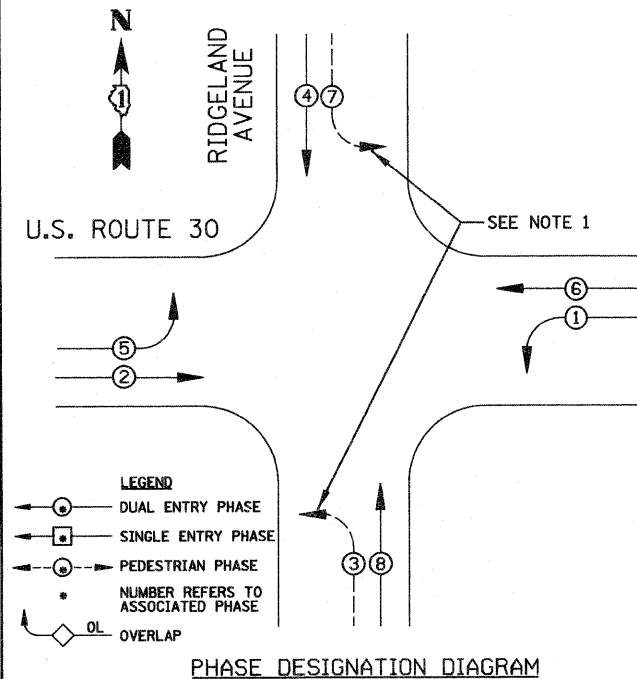
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN  
U.S. ROUTE 30 AT RIDGELAND AVENUE**

SCALE: N.T.S. SHEET NO. OF SHEETS STA. TO STA.

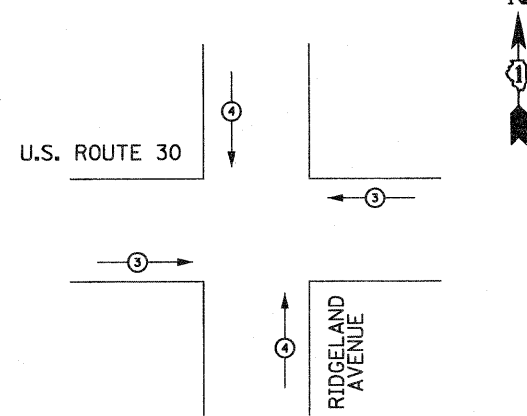
F.A.P. RTE. 353	SECTION 23-N-3	COUNTY COOK	TOTAL SHEETS 38	SHEET NO. 20
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60149	

CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTOR			
EMERGENCY VEHICLE PREEMPTOR	3	4	
MOVEMENT	← →	↑ ↓	

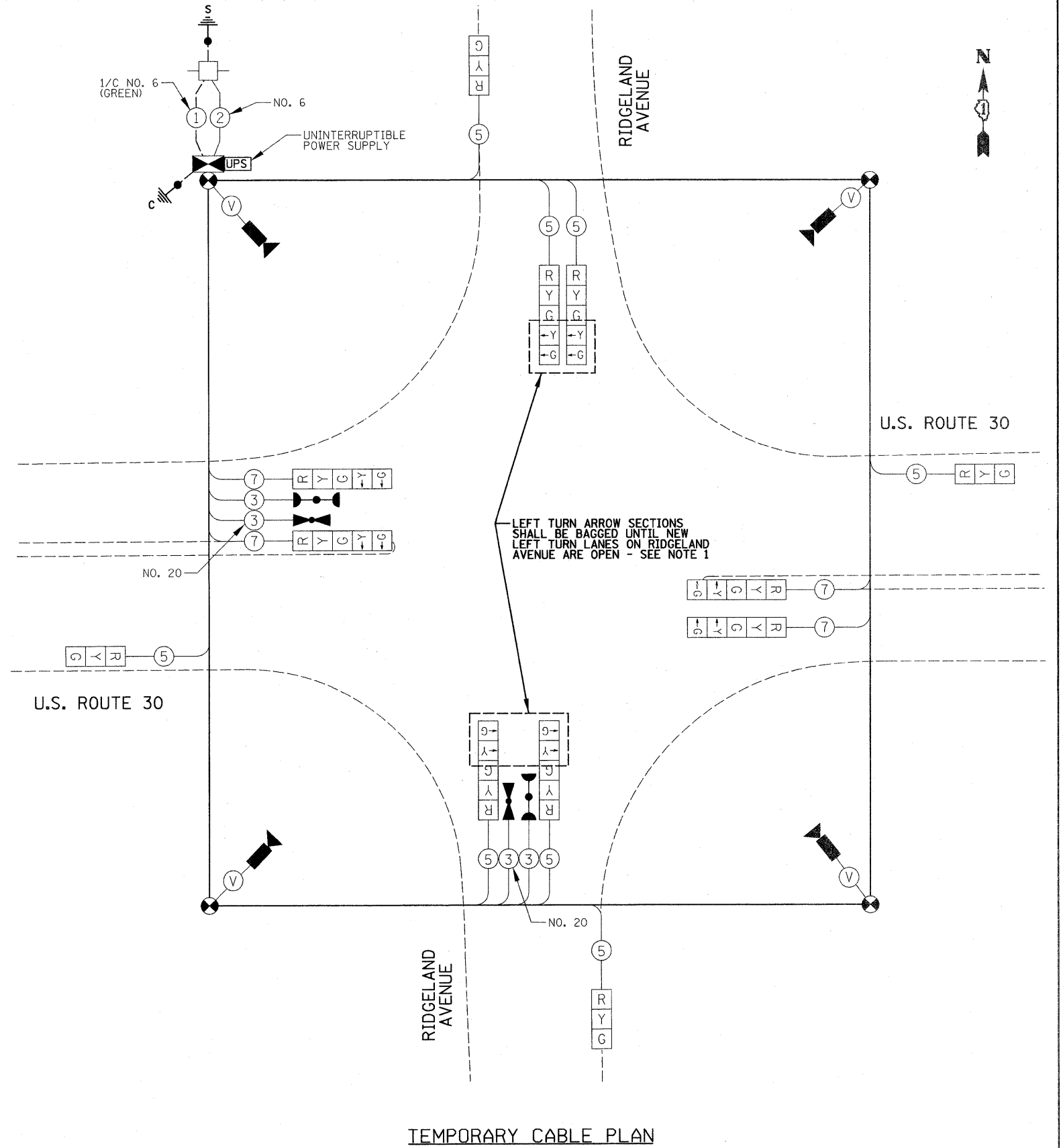
I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	12	135	17	0.50	102
(YELLOW)	12	135	25	0.25	75
(GREEN)	12	135	15	0.25	45
ARROW	16	135	12	0.10	19.2
PED. SIGNAL	-	90	25	1.00	-
CONTROLLER	1	100	100	1.00	100
ILLUM. SIGN		84		0.05	
VIDEO SYSTEM	1	150		1.00	150
FLASHER				0.50	
ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION 201 W. CENTER COURT SCHAUMBURG, IL 60196					TOTAL = 491.2
ENERGY SUPPLY CONTACT:					
PHONE:		COMED			
COMPANY:		COMED			

**CONSTRUCTION NOTES:**

- LEFT TURN PHASING SHALL BE INTRODUCED UPON COMPLETION OF THE ROADWAY IMPROVEMENTS AND PRIOR TO THE COMPLETION OF THE PERMANENT TRAFFIC SIGNAL INSTALLATION.

**RESTORATION OF WORK AREA**

RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIANS, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



TEMPORARY CABLE PLAN

FILE NAME = \MICROST\352083\	USER NAME = RDS	DESIGNED - KK	REVISED -
	PLOT SCALE = 1"=20'	DRAWN - RDS	REVISED -
	PLOT DATE = 11-06-09	CHECKED - BPT	REVISED -
		DATE - 12-18-09	REVISED -

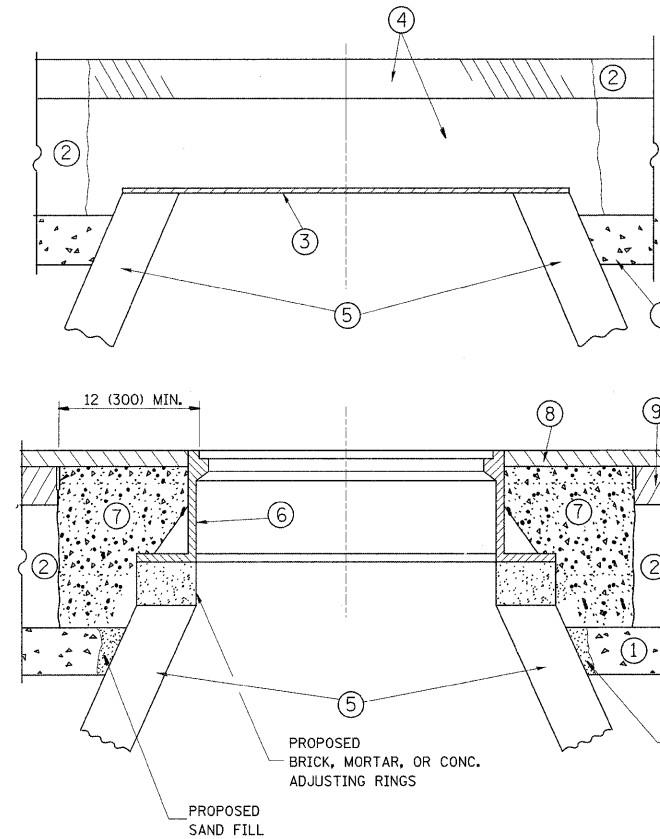
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

TEMPORARY CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION U.S. ROUTE 30 AT RIDGELAND AVENUE			
SCALE: N.T.S.	SHEET NO. OF SHEETS	STA. TO STA.	

PREPARED BY:

**CEMCON, Ltd.**  
Consulting Engineers, Land Surveyors & Planners  
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E-Mail: cadd@cemcon.com Website: www.cemcon.com

F.A.P. RTE. 353	SECTION 23-N-3	COUNTY COOK	TOTAL SHEETS 38	SHEET NO. 21
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 60149	



**CONSTRUCTION PROCEDURES**

**STAGE 1 (BEFORE PAVEMENT MILLING)**

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- D) BACKFILL WITH CRUSHED STONE AND A MINIMUM 1 1/2 (40) THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

**STAGE 2 (AFTER PAVEMENT MILLING)**

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS SI CONCRETE, OR HMA SURFACE COURSE OR HMA BINDER COURSE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS.

**LEGEND**

- ① SUB-BASE GRANULAR MATERIAL
- ② EXISTING PAVEMENT
- ③ 36 (900) DIAMETER METAL PLATE
- ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- ⑤ EXISTING STRUCTURE
- ⑥ FRAME AND LID (SEE NOTES)
- ⑦ CLASS SI CONCRETE, HMA SURFACE COURSE OR HMA BINDER COURSE
- ⑧ PROPOSED HMA SURFACE COURSE
- ⑨ PROPOSED HMA BINDER COURSE

**LOCATION OF STRUCTURES:**

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

**BASIS OF PAYMENT:** THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR "FRAMES AND LIDS TO BE ADJUSTED, SPECIAL" NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

**NOTES:**

EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

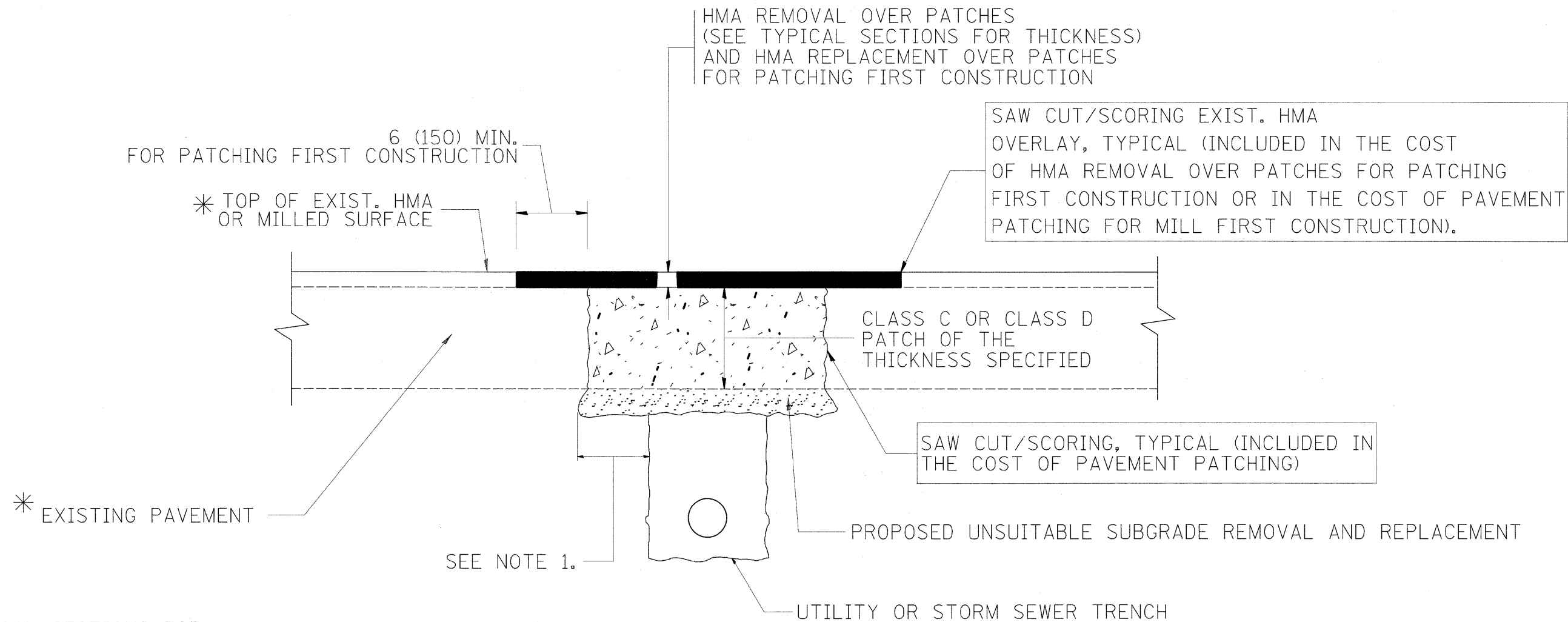
THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

**DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING**

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

FILE NAME =	USER NAME = ahurionab	DESIGNED - R. SHAH	REVISED - R. SHAH 03-10-95	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
es:\pwork\PWIDOT\SHIRANISB\d0107234\01	Std.dgn	DRAWN -	REVISED - A. ABBAS 03-21-97		353	23-N-3	COOK	38	22			
	PLOT SCALE = 5/8" = 1' / IN.	CHECKED -	REVISED - R. WIEDEMAN 05-14-04		<b>BD600-03 (BD-8)</b>			<b>CONTRACT NO. 60149</b>				
	PLOT DATE = 3/2/2010	DATE - 10-25-94	REVISED - R. BORO 01-01-07		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



\* SEE TYPICAL SECTIONS FOR THICKNESS AND MATERIALS

**NOTES:**

1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

**SEQUENCE OF CONSTRUCTION (PATCHING FIRST)**

1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

**SEQUENCE OF CONSTRUCTION (MILLING FIRST)**

1. MILL HMA FIRST IF THERE IS AT LEAST 4 1/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

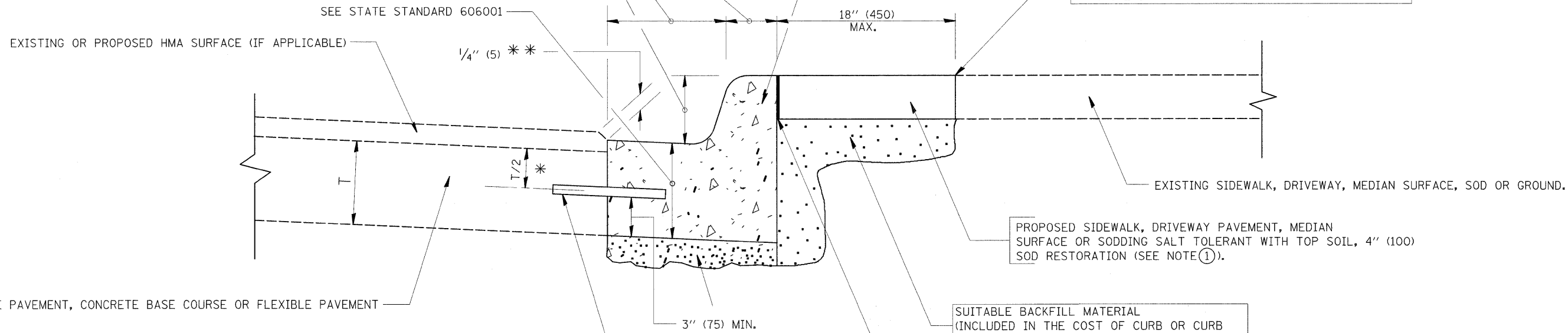
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = shiransb	DESIGNED - R. SHAH	REVISED - A. ABBAS 04-27-98	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT PATCHING FOR HMA SURFACED PAVEMENT</b>		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pwork\pwidot\SHIRANISB\0187234\0187234.dgn	DRAWN -	REVISED - R. BORO 01-01-07	353				23-N-3	COOK	38	23	
PLOT SCALE = 50,0000' / IN.	CHECKED -	REVISED - R. BORO 09-04-07	<b>BD400-04 (BD-22)</b>		<b>CONTRACT NO. 60149</b>		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
PLOT DATE = 3/2/2010	DATE - 10-25-94	REVISED - K. ENG 10-27-08	SCALE: NONE		SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.				

VARIABLE - TO MEET EXISTING DIMENSIONS AND FIELD CONDITIONS (SEE NOTE ②)

PROP. CONC. CURB OR CURB AND GUTTER REPLACEMENT IN ACCORDANCE WITH STATE STANDARD 606001. (SEE NOTE ②)

SAW CUT FULL DEPTH - INCLUDED IN THE COST OF SIDEWALK, DRIVEWAY OR MEDIAN SURFACE REMOVAL PAY ITEM.



PROPOSED SIDEWALK, DRIVEWAY PAVEMENT, MEDIAN SURFACE OR SODDING SALT TOLERANT WITH TOP SOIL, 4" (100) SOD RESTORATION (SEE NOTE ①).

SUITABLE BACKFILL MATERIAL (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT)

PROPOSED 3/4" (20) PREFORMED EXPANSION JOINT AT CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIANS. (INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.)

UNSUITABLE SUB-BASE MATERIAL TO BE REMOVED, IF DIRECTED BY THE ENGINEER, SHALL BE REPLACED WITH EITHER SUB-BASE GRANULAR MATERIAL, TYPE B OR ADDITIONAL THICKNESS OF CONCRETE.

REMOVAL AND REPLACEMENT 4" (100) OR LESS IS INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

REMOVAL AND REPLACEMENT IN EXCESS OF 4" (100) WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

PROPOSED #6 (20) EPOXY COATED TIE BARS 24" (600) LONG AT 24" (600) CENTERS WILL NOT BE PAID FOR SEPARATELY. DELETE EPOXY COATED TIE BARS IF EXISTING TIE BARS ARE USUABLE AS DETERMINED BY THE ENGINEER. (SEE NOTE ③).

**BASIS OF PAYMENT:**

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

\* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

\*\* IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

NOTE: ① SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.  
SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY,

② FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

③ CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

④ FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

⑤ LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑥ THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

⑦ THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

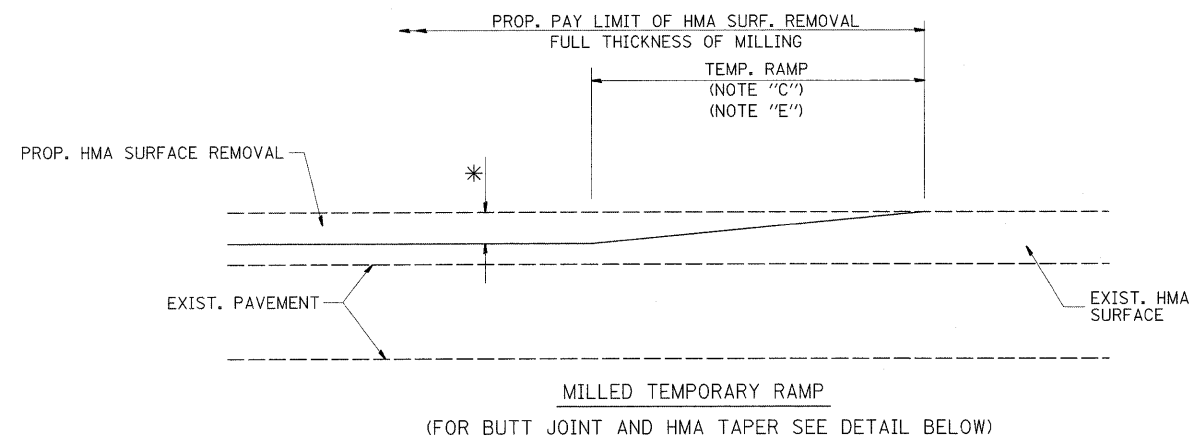
⑧ THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

# CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

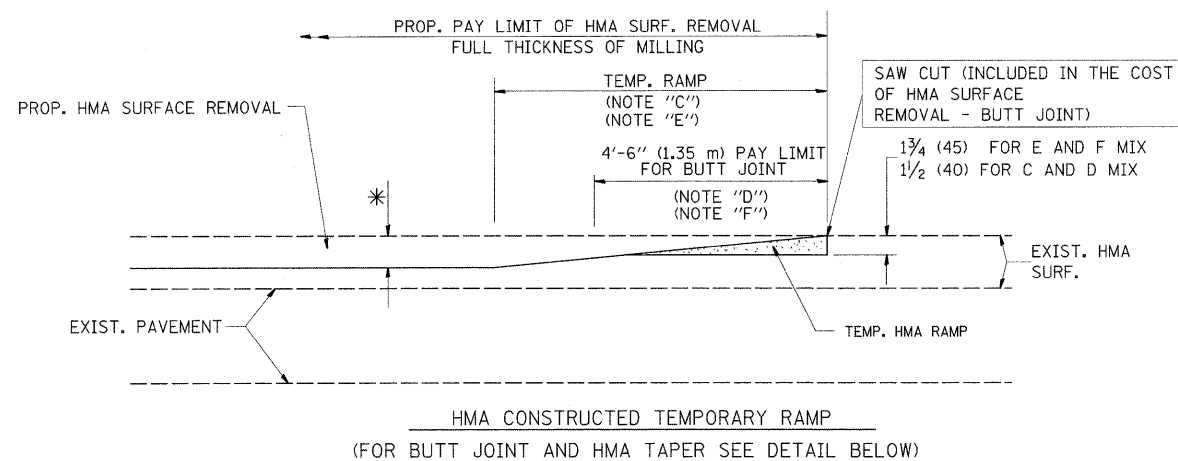
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = shiransab	DESIGNED - A. HOUSEH	REVISED - R. SHAH 10-03-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
es:\pwwork\PIWIDOT\SHIRANSAB\d0107234\01	esstd.dgn	DRAWN -	REVISED - A. ABBAS 03-21-97			353	23-N-3	COOK	38	24	
PLOT SCALE = 50.0000 1/4 IN.		CHECKED -	REVISED - M. GOMEZ 01-22-01			<b>BD600-06 (BD-24)</b>		<b>CONTRACT NO. 60149</b>			
PLOT DATE = 3/2/2010		DATE - 03-11-94	REVISED - R. BORO 12-15-09			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
				SCALE: NONE		SHEET NO. 1 OF 1 SHEETS		STA.		TO STA.	

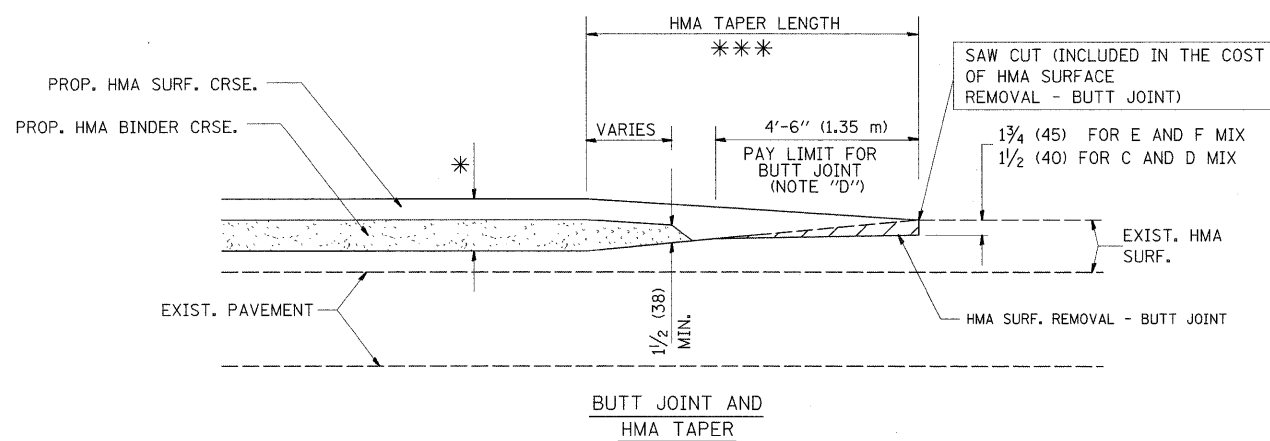




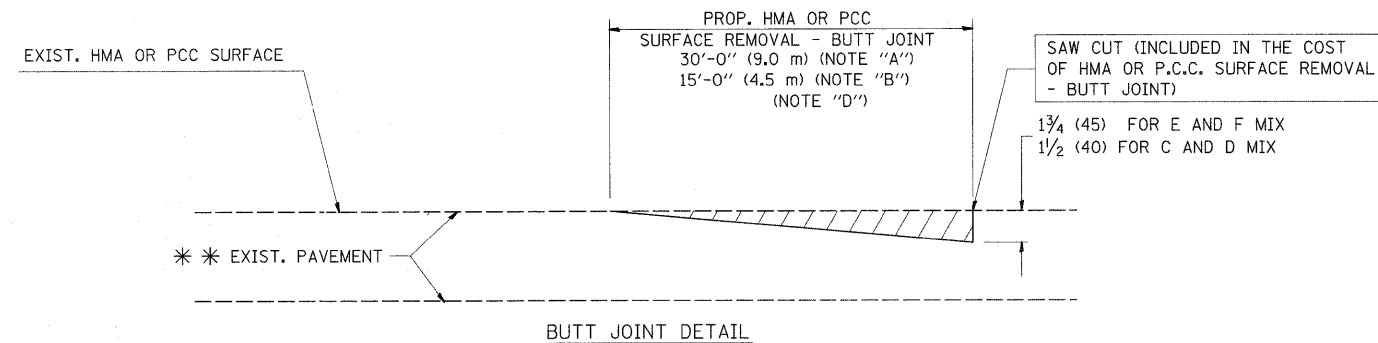
**OPTION 1**



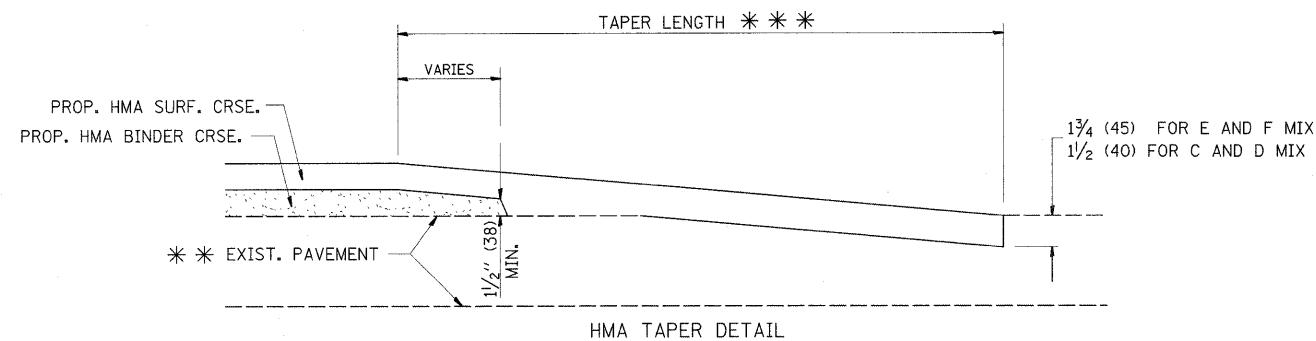
**OPTION 2**  
**TYPICAL TEMPORARY RAMP**



**TYPICAL BUTT JOINT AND HMA TAPER**  
**FOR MILLING AND RESURFACING**



**BUTT JOINT DETAIL**



**HMA TAPER DETAIL**

**TYPICAL BUTT JOINT AND HMA TAPER**  
**FOR RESURFACING ONLY**

\*\*\* PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

**NOTES**

- A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.
  - B: MINOR SIDE ROADS.
  - C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
  - D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
  - E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.
  - F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT
  - G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
- \* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- \*\*\* 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")  
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

**BASIS OF PAYMENT:**

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT".

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

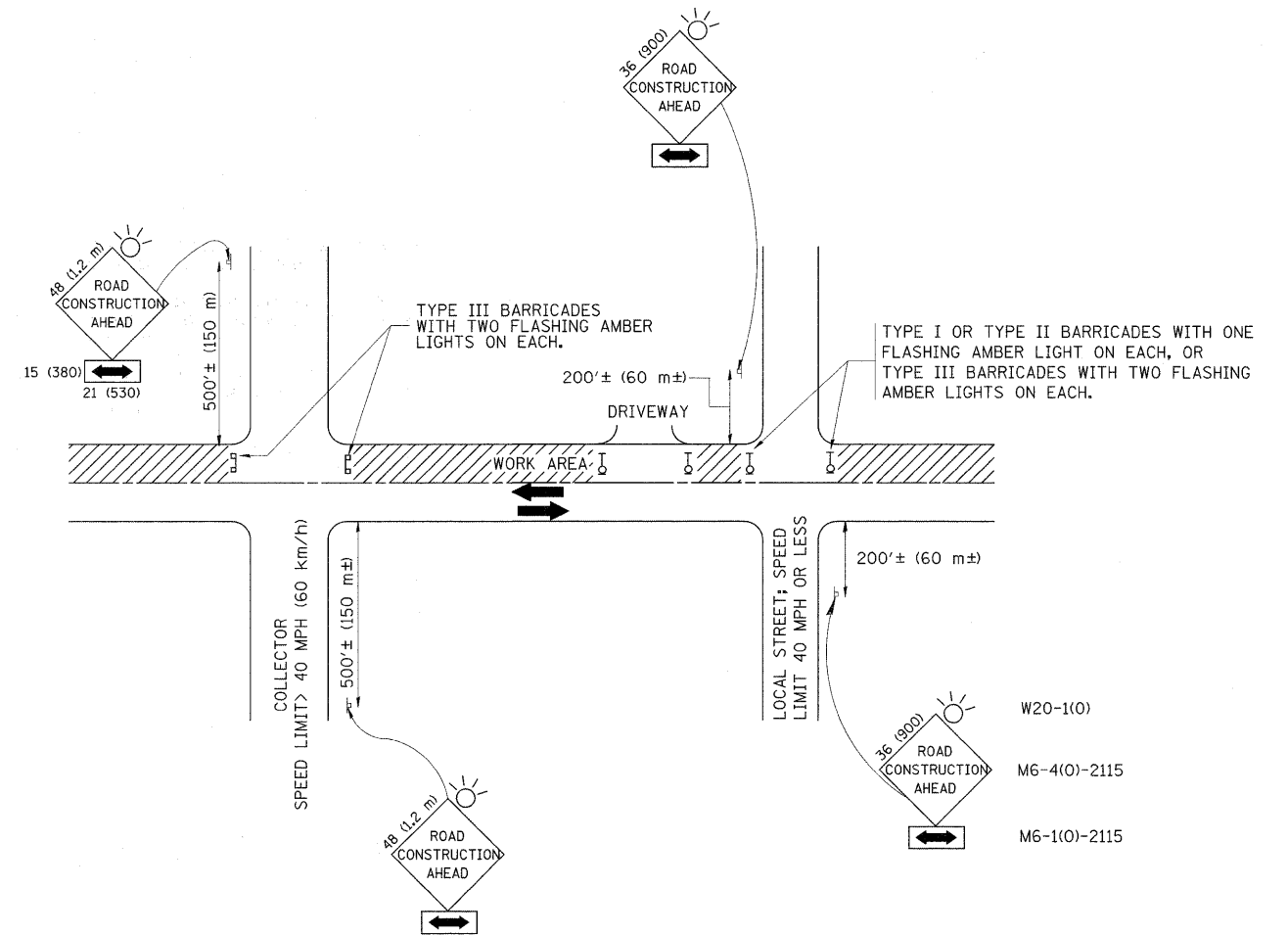
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	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - M. GOMEZ 04-06-01
	PLOT DATE = 3/2/2010	DATE - 06-13-90	REVISED - R. BORO 01-01-07

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BUTT JOINT AND**  
**HMA TAPER DETAILS**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	38	25
<b>BD400-05 BD32</b>		<b>CONTRACT NO. 60149</b>		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
  1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
    - a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
    - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
  2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
    - a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
    - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
  3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:
 

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

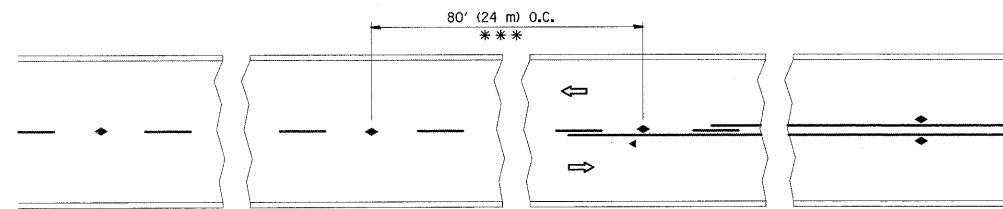
All dimensions are in millimeters (Inches) unless otherwise shown.

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	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED - A. HOUSEH 10-15-96
	PLOT DATE = 3/2/2010	DATE - 06-89	REVISED - T. RAMMACHER 01-06-00

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

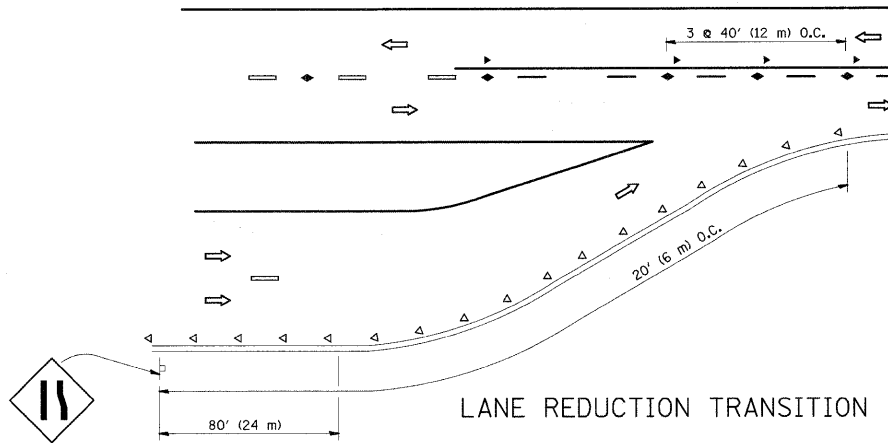
TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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TC-10		CONTRACT NO. 60149		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

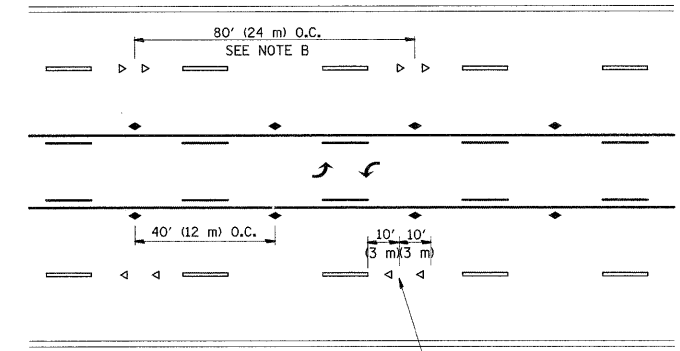


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

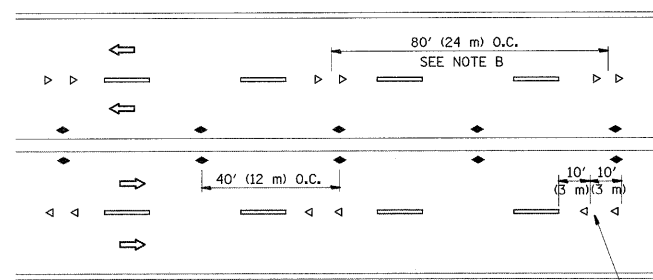
TWO-LANE/TWO-WAY



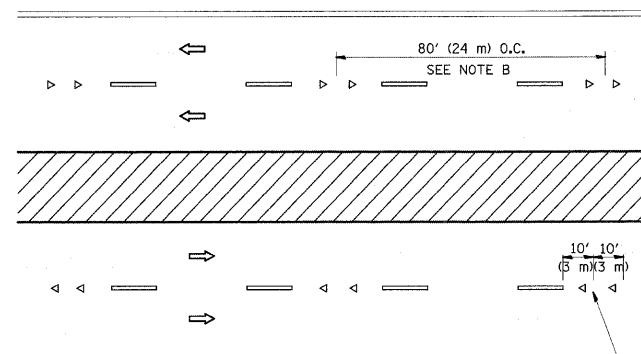
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

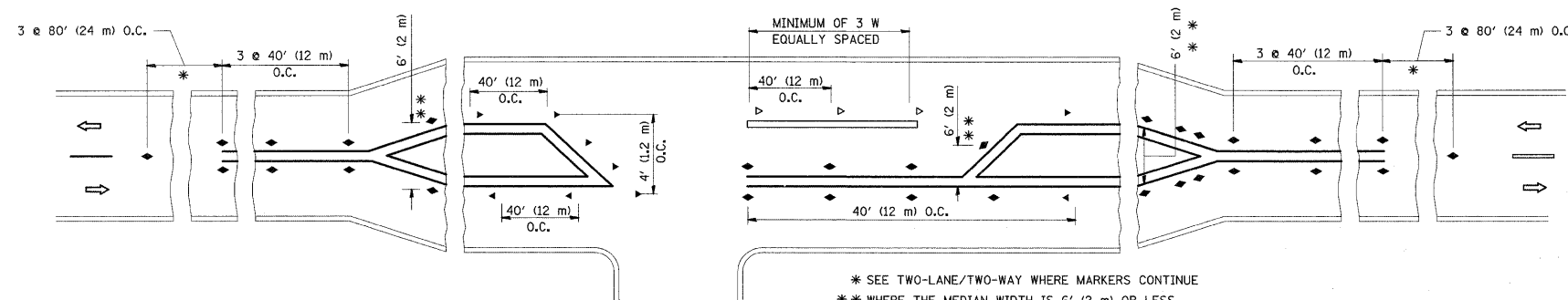
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHOULD BE INCLUDED IN THE PLANS.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

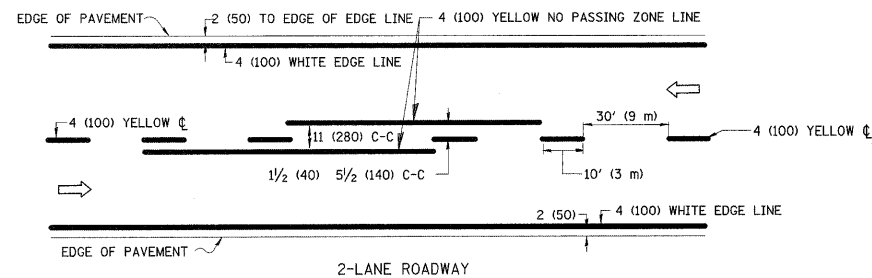
All dimensions are in Inches (millimeters) unless otherwise shown.

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PLOT SCALE = 50.0000 / IN.		CHECKED -	REVISED - T. RAMMACHER 01-06-00
PLOT DATE = 3/2/2010		DATE -	REVISED - C. JUCIUS 09-09-09

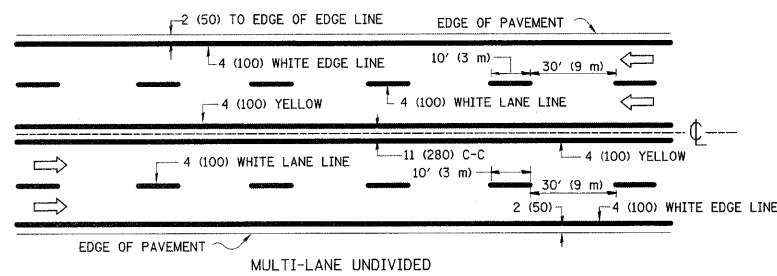
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

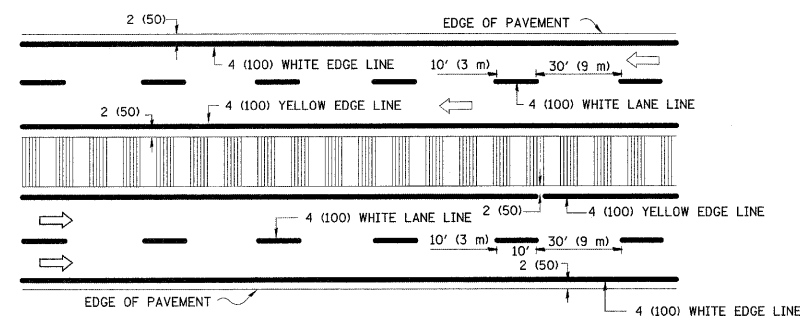
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	38	27
TC-11		CONTRACT NO. 60149		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



2-LANE ROADWAY



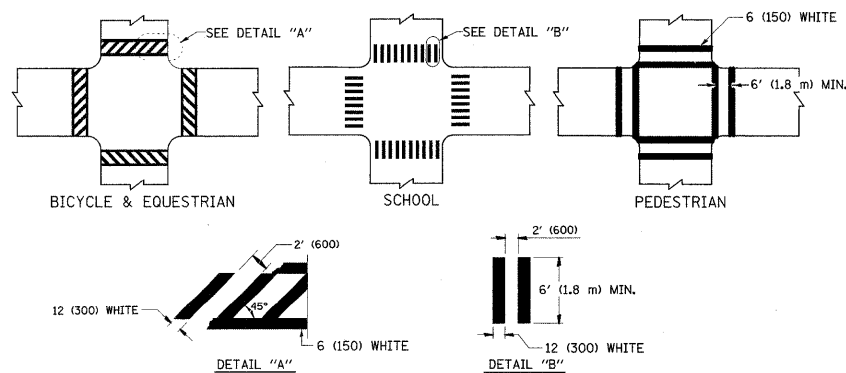
MULTI-LANE UNDIVIDED



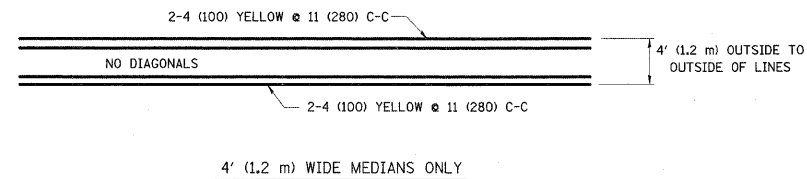
MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

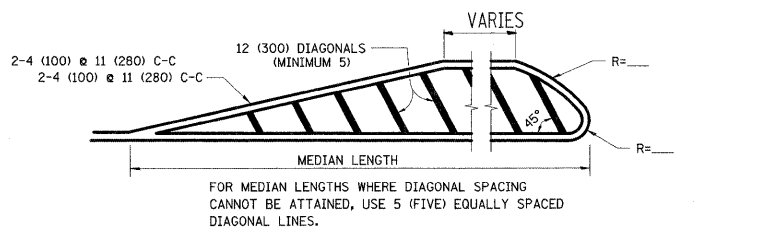
TYPICAL LANE AND EDGE LINE MARKING



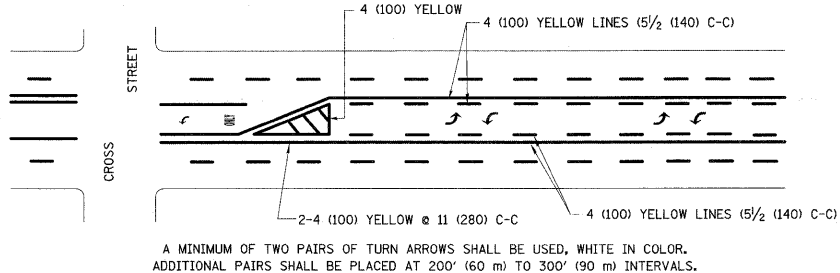
TYPICAL CROSSWALK MARKING



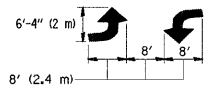
4' (1.2 m) WIDE MEDIANS ONLY



MEDIANS OVER 4' (1.2 m) WIDE

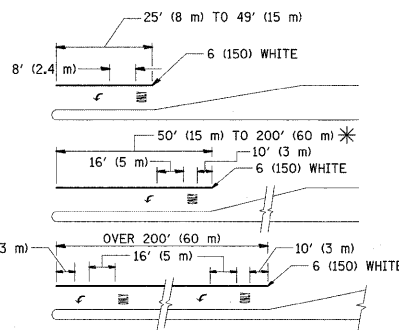


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

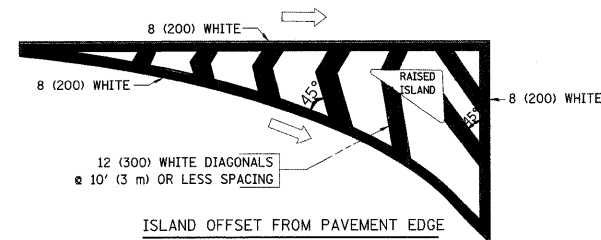


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED. AREA = 15.6 SQ. FT. (1.5 m<sup>2</sup>) ONLY AREA = 20.8 SQ. FT. (1.9 m<sup>2</sup>)

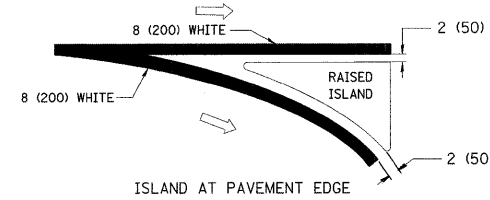
\* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW. EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> ) EACH "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

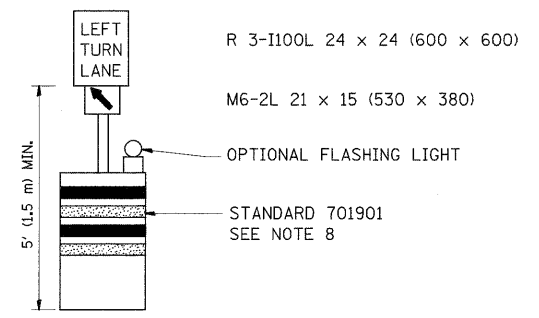
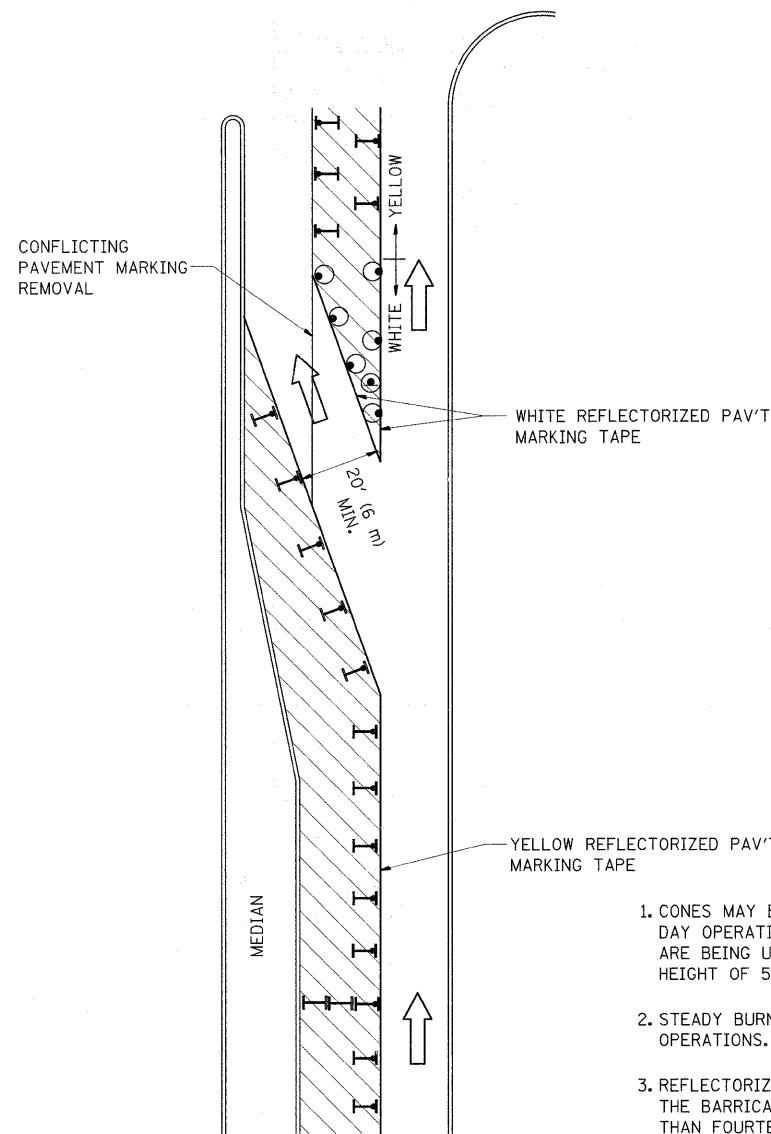
All dimensions are in inches (millimeters) unless otherwise shown.

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PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISIONS -	REVISIONS -
PLOT DATE = 3/2/2010	DATE - 03-19-90	REVISIONS -	REVISIONS -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
TYPICAL PAVEMENT MARKINGS

SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	F.A.P. RTE. 353	SECTION 23-N-3	COUNTY COOK	TOTAL SHEETS 38	SHEET NO. 28
				CONTRACT NO. 60149		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		

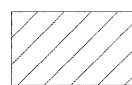







**GENERAL NOTES**

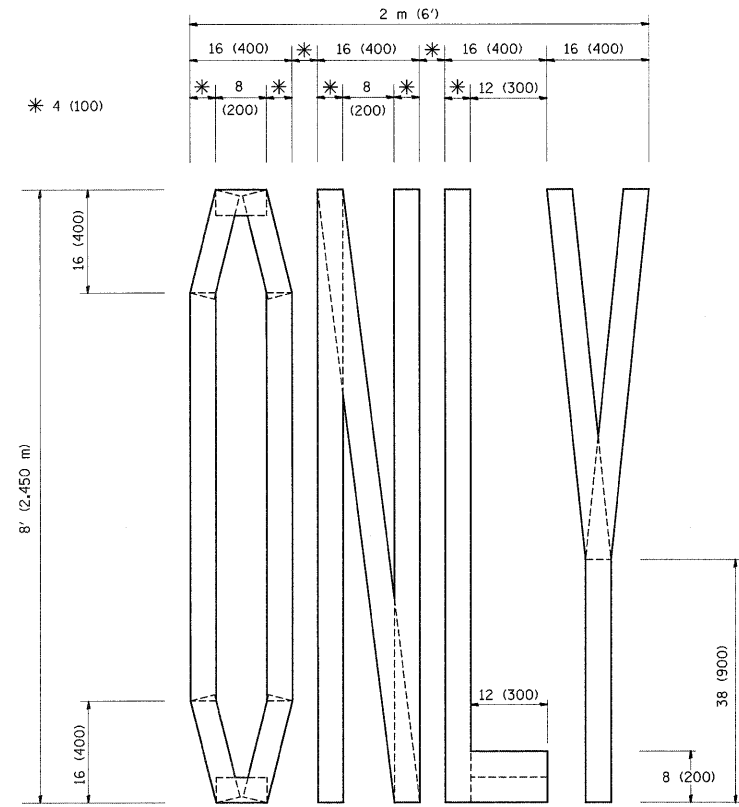
1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHR 350 REQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

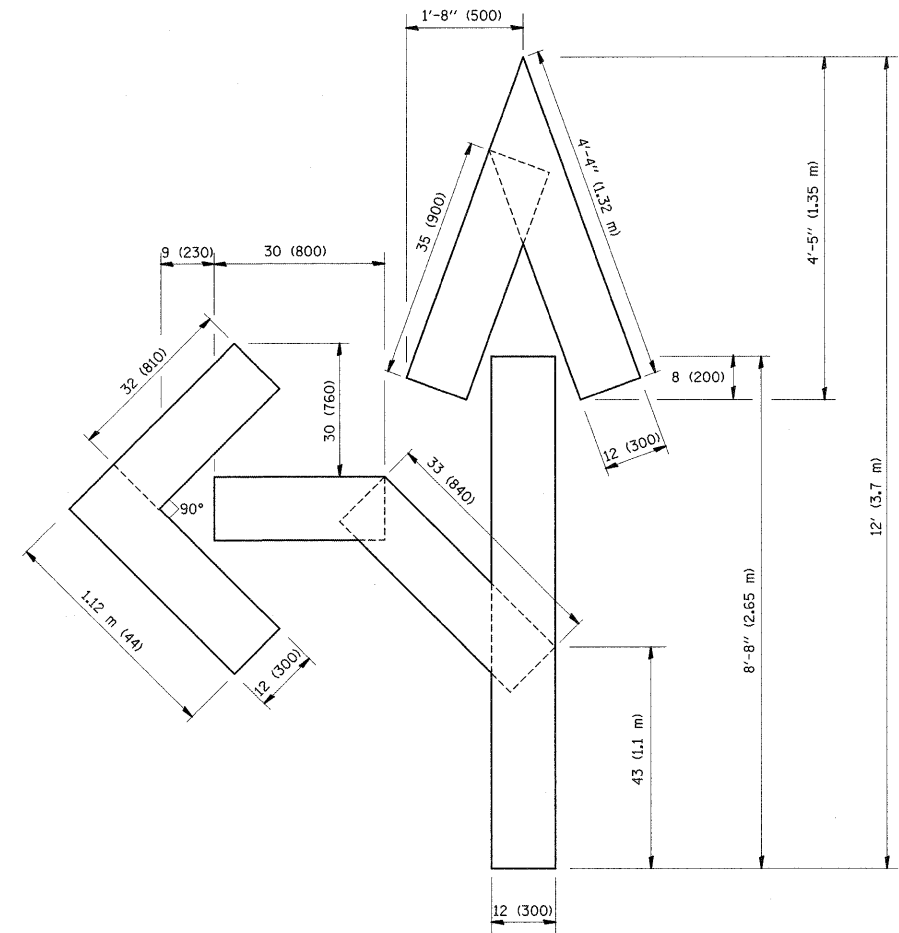
**LEGEND**

-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

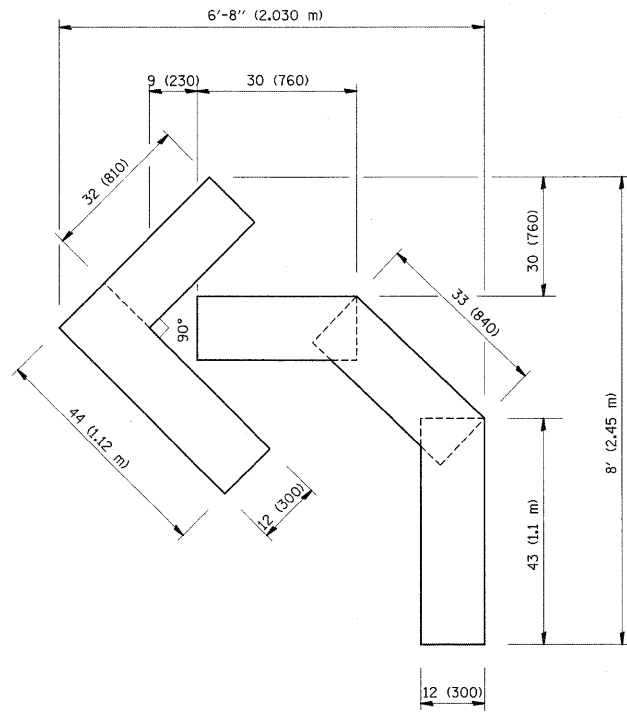
FILE NAME =	USER NAME = ahironab	REVISED - T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca\pwwork\PIWIDOT\SHIRANISB\0107234\01	std.dgn	REVISED - A. HOUSEH 11-07-95	REVISED -		353	23-N-3	COOK	38	29			
PLOT SCALE = 50,0000' / IN.		REVISED - A. HOUSEH 10-12-96	REVISED -		<b>TC-14</b>		<b>CONTRACT NO. 60149</b>					
PLOT DATE = 3/2/2010		REVISED - T. RAMMACHER 01-06-00	REVISED -		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



QUANTITY  
 4 (100) LINE = 64.1 ft. (19.7 m)  
 21.1 sq. ft. (1.97 sq. m)



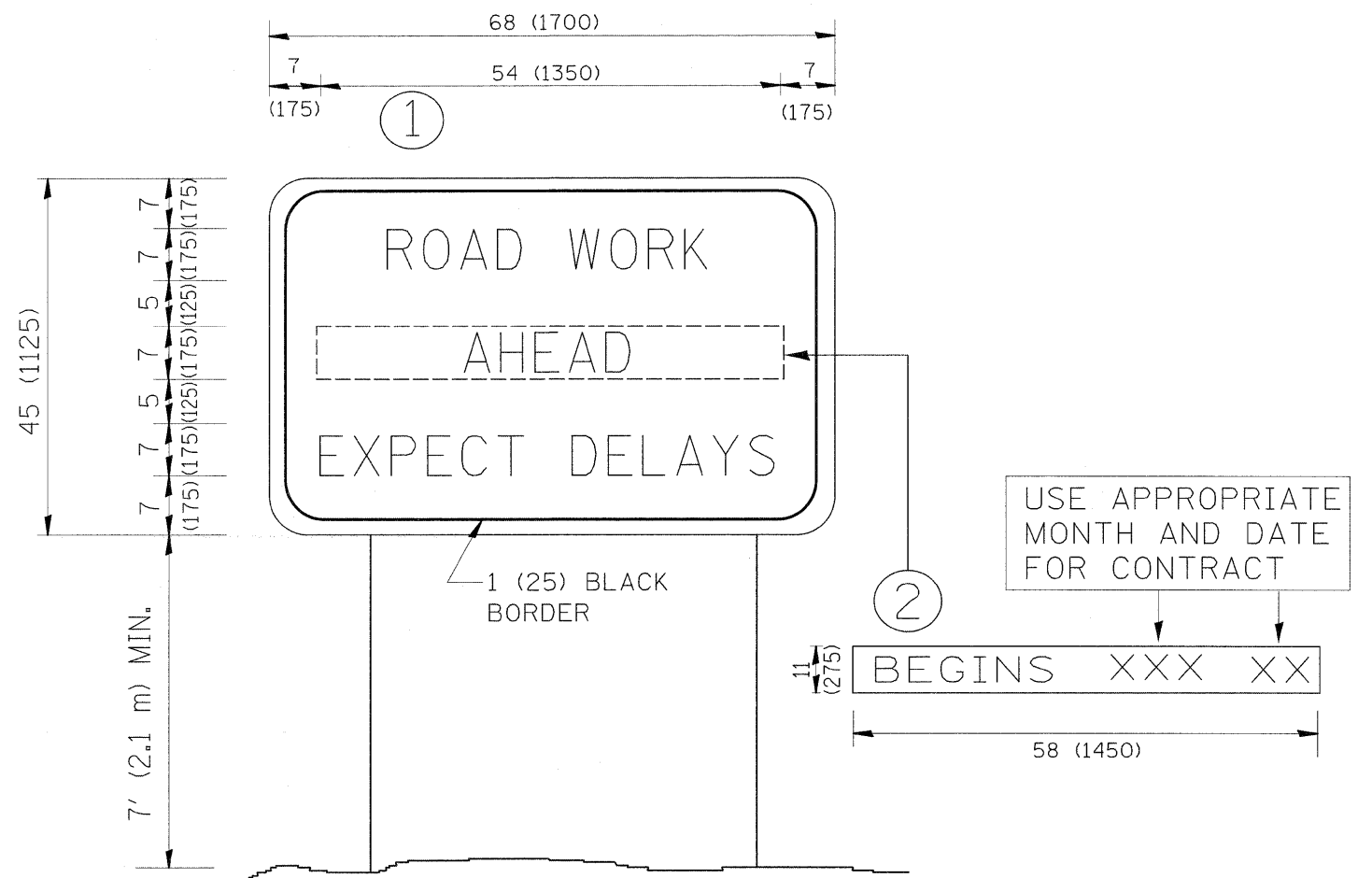
QUANTITY  
 4 (100) LINE = 82.5 ft. (25.3 m)  
 27.5 sq. ft. (2.53 sq. m)



QUANTITY  
 4 (100) LINE = 45.5 ft. (13.9 m)  
 15.2 sq. ft. (1.39 sq. m)

All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME = shiranisb	DESIGNED -	REVISED -T. RAMMACHER 06-05-96	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PAVEMENT MARKING LETTERS AND SYMBOLS FOR TRAFFIC STAGING</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pwwork\pwwid01\shiranisb\0107234\d14	sstd.dgn	DRAWN -	REVISED -T. RAMMACHER 11-04-97		353	23-N-3	COOK	38	30			
PLOT SCALE = 50,0000 ' / IN.	CHECKED -	REVISED -T. RAMMACHER 03-02-98	SCALE: NONE		SHEET NO. 1	OF 1 SHEETS	STA.	TO STA.	TC-16		CONTRACT NO. 60149	
PLOT DATE = 3/2/2010	DATE - 09-18-94	REVISED -E. GOMEZ 08-28-00							FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			



**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = shiransb	DESIGNED -	REVISED - R. MIRS 09-15-97
ca:\pwork\PWIDOT\SHIRANISB\0107234\019	Std.dgn	DRAWN -	REVISED - R. MIRS 12-11-97
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
	PLOT DATE = 3/2/2010	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

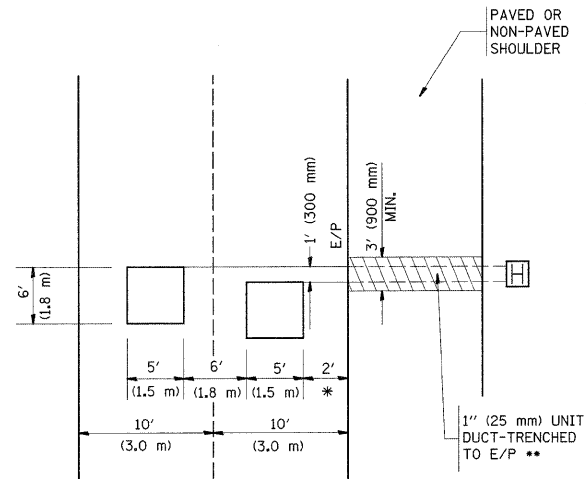
**ARTERIAL ROAD  
INFORMATION SIGN**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	38	31
<b>TC-22</b>			<b>CONTRACT NO. 60149</b>	
<small>FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT</small>				

**LOOPS NEXT TO SHOULDERS**

PROVIDE A PAVEMENT REPLACEMENT NOTE WHICH SHOULD EQUAL 3' (900 mm) X WIDTH OF PAVED SHOULDER.

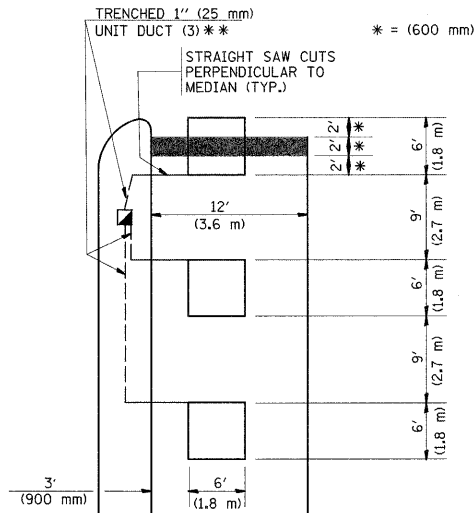


\* = (600 mm)

\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

**LEFT TURN LANES WITH MEDIANS  
VOLUME DENSITY ("FAR OUT" DETECTION)  
ON SAME APPROACH  
(PROTECTED / PERMITTED LEFT TURN PHASING)**

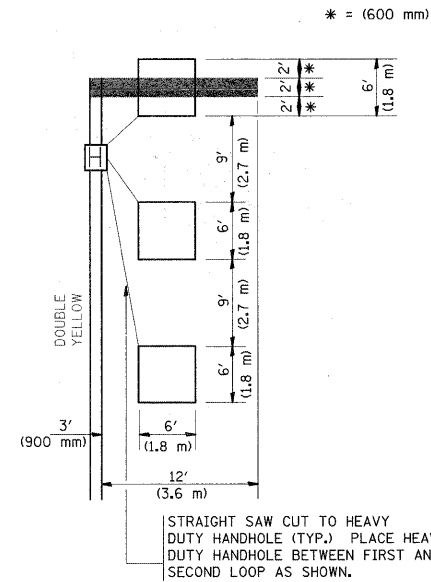
HANDHOLE LOCATION MAY VARY DEPENDING ON GEOMETRICS AND DESIGN OF TRAFFIC SIGNALS. HEAVY-DUTY HANDHOLES TO BE USED WHEN THE MEDIAN IS MOUNTABLE. REFER TO STANDARD 814001 TO ENSURE THAT HANDHOLE FITS IN MEDIAN.



\*\* UNIT DUCT IS TO BE SHOWN ON PLAN SHEETS BUT SHALL NOT BE INCLUDED IN THE PAY ITEMS.

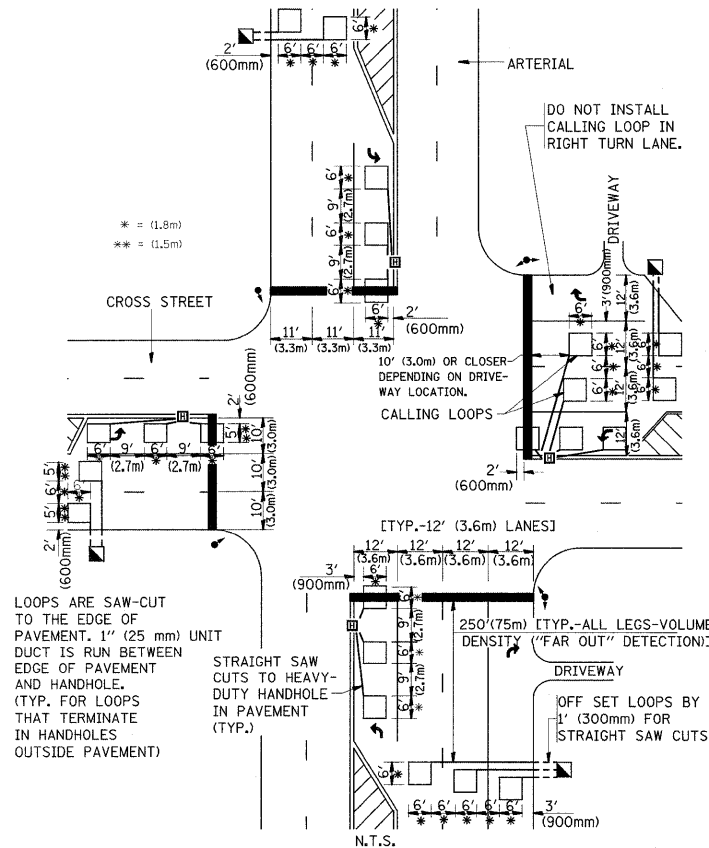
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**LEFT TURN LANES WITHOUT MEDIANS  
VOLUME DENSITY ("FAR OUT" DETECTION)  
ON SAME APPROACH  
(PROTECTED / PERMITTED LEFT TURN PHASING)**



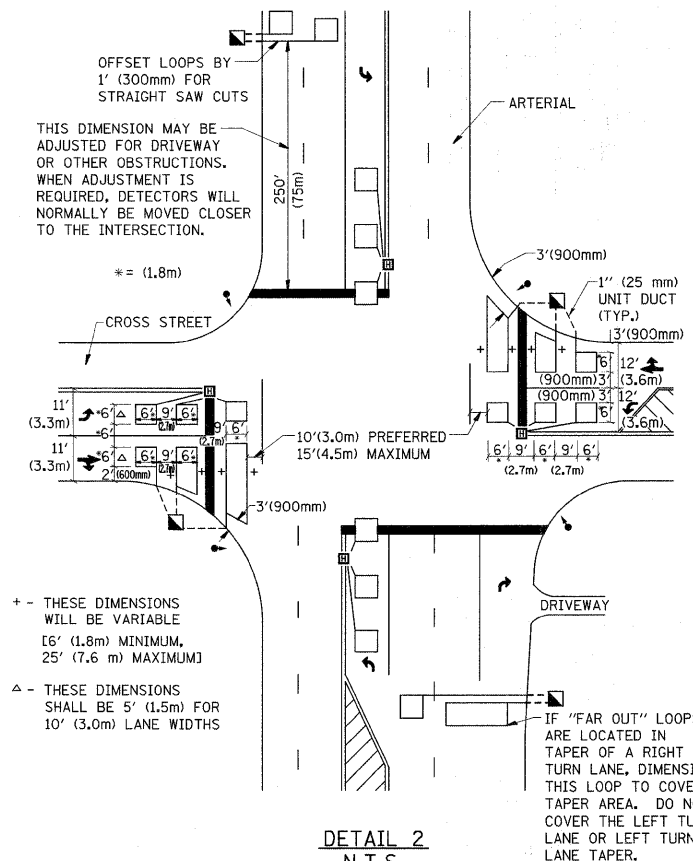
NOTE: DUAL LEFT TURNS NOT SHOWN REFER TO PLAN SHEET FOR DETECTOR LOOP REPLACEMENT

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)  
CROSS STREET-VOLUME DENSITY ("FAR OUT" DETECTION)**



**DETAIL 1**  
N.T.S.

**ARTERIAL-VOLUME DENSITY ("FAR OUT" DETECTION)  
CROSS STREET-NON VOLUME DENSITY ("UPTIGHT" PRESENCE DETECTION)**



**DETAIL 2**  
N.T.S.

**NOTES:**

**VEHICLES LOOP DETECTORS**

- \* ALL LEAD IN CABLE SHALL BE TWO CONDUCTOR NO. 14 TWISTED, SHIELDED.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN SAW CUT FROM THE LOOP TO THE EDGE OF PAVEMENT OR TO A HANDHOLE IN THE PAVEMENT.
- \* EACH DETECTOR LOOP SHALL HAVE ITS OWN ONE INCH (25 mm) UNIT DUCT BETWEEN THE EDGE OF PAVEMENT AND THE FIRST HANDHOLE OR JUNCTION BOX. EACH UNIT DUCT RUN SHALL BE SHOWN ON THE PLANS BY THE DESIGNER, BUT SHALL NOT BE PAID FOR SEPARATLY. THIS ITEM IS INCIDENTAL TO THE PAY ITEM FOR DETECTOR LOOPS.
- \* ONE DIMENSION OF ALL DETECTOR LOOPS SHALL BE SIX FEET (1.8 m)
- \* EACH LANE OF NON-LOCKING, PRESENCE DETECTION AND EACH LANE OF A DOUBLE LEFT TURN LANE REQUIRES A SEPARATE INDUCTIVE LOOP DETECTOR AND LEAD IN CABLE.
- \* WHEN NON-LOCKING, PRESENCE DETECTION IS USED, MORE THAN ONE LOOP PER LANE IS REQUIRED BEHIND THE STOP BAR (i.e. 1-1/2, 1-3/4, 2).
- \* WHEN SYSTEM LOOPS ARE REQUIRED ON AN APPROACH OF AN INTERSECTION, THE LOOPS USED FOR VOLUME DENSITY AND INTERSECTION TIMING SHALL ALSO BE USED AS SYSTEM DETECTORS. EACH ONE OF THESE TYPE OF LOOPS REQUIRES A SEPARATE TWO CONDUCTOR NO. 14 TWISTED SHIELDED CABLE AND A SEPARATE INDUCTIVE LOOP DETECTOR WHEN NEW CONTROLLERS ARE UTILIZED. THE DESIGNER SHALL LABEL THESE TYPES OF LOOPS AS "INTERSECTION AND SAMPLING (SYSTEM) DETECTORS" ON THE SIGNAL LAYOUT, THE INTERCONNECT PLAN AND THE SYSTEM CABLE PLAN. WHEN AN EXISTING CONTROLLER IS UTILIZED FOR THIS TYPE OF DETECTION, THE PAY ITEM "INDUCTIVE LOOP DETECTOR WITH SYSTEM OUTPUT" SHOULD BE USED.

**PLACEMENT OF DETECTORS**

THE FOLLOWING FIGURES REPRESENT THE MOST COMMON DETECTOR LOOP LOCATIONS AND SIZES. ADJUSTMENTS WILL BE NECESSARY FOR SPECIFIC GEOMETRIC CONSIDERATIONS.

LOCATIONS AND DEMENSIONS OF DETECTOR LOOPS ARE REQUIRED ON ALL SIGNAL LAYOUT PLAN SHEETS.

"FAR OUT" DETECTION REFERS TO LOCKING, PRESENCE TYPE DETECTION LOCATED IN THRU LANES, RIGHT TURN LANES, AND RIGHT TURN LANE TAPER AREAS (IF APPLICABLE), USUALLY 250' (75 m) IN ADVANCE OF STOP BARS. "UPTIGHT" DETECTION REFERS TO NON-LOCKING PRESENCE TYPE DETECTION LOCATED IN ALL LANES AND 10'-15' (3.0 m-4.5 m) BEHIND THE CROSSING STREET'S EDGE OF PAVEMENT EXTENDED.

**NOTE:**

ALL DETAILS AND NOTES SHOWN ARE FROM THE I.D.O.T. DISTRICT 1 TRAFFIC SIGNAL DESIGN GUIDELINES DATED JANUARY 1995

THIS DRAWING HAS BEEN PREPARED TO ASSIST THE RESIDENT ENGINEER FOR ALL ROADWAY RESURFACING OR S.M.A.R.T. PROJECTS WHERE THE DIMENSIONS ARE NOT SHOWN ON THE PLANS AND THE FINAL LOCATIONS FOR CROSSWALKS OR STOP BARS ARE NOT DETERMINED.

FILE NAME =	USER NAME = shiransab	DESIGNED -	REVISED -
es:\p\work\p\1001\SHIRANSAB\0107234\01\stddgn		DRAWN -	REVISED -
		CHECKED - R.K.F.	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT 1 - DETECTOR LOOP INSTALLATION  
DETAILS FOR ROADWAY RESURFACING**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

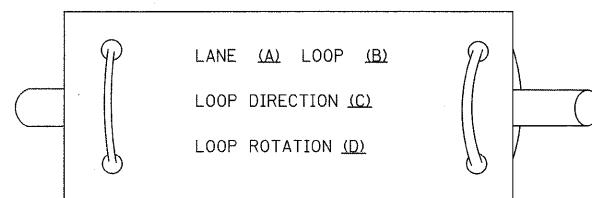
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	23-N-3	COOK	38	32
<b>TS-07</b>		<b>CONTRACT NO. 60149</b>		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



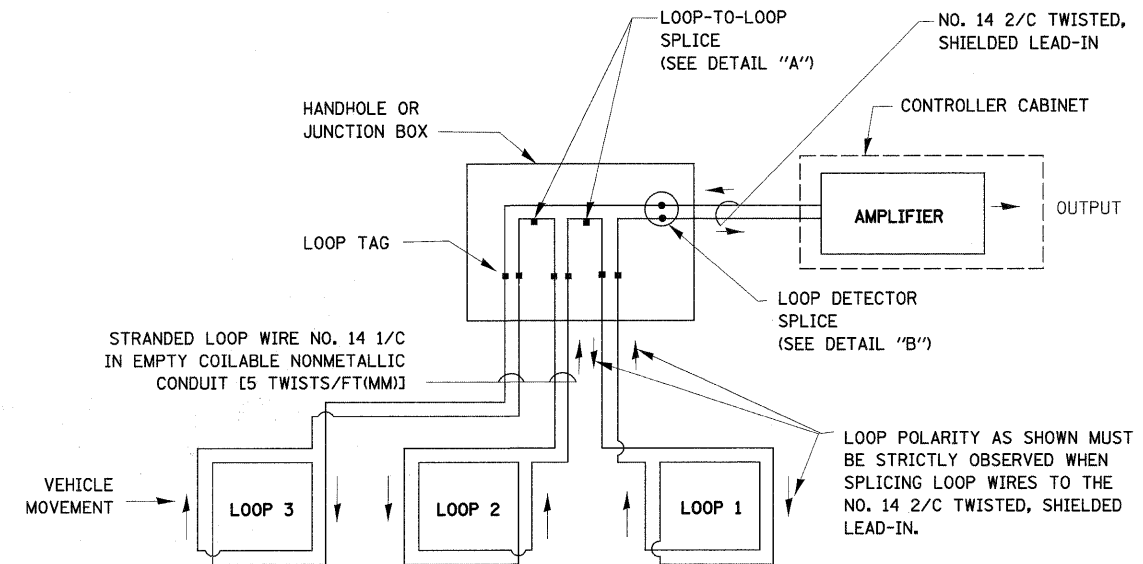
## LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

### LOOP LEAD-IN CABLE TAG

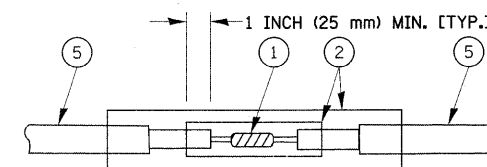


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

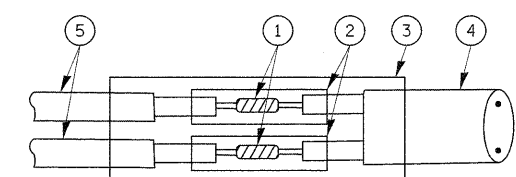


### DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

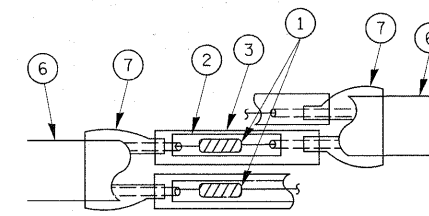


DETAIL "A"  
LOOP-TO-LOOP SPLICE

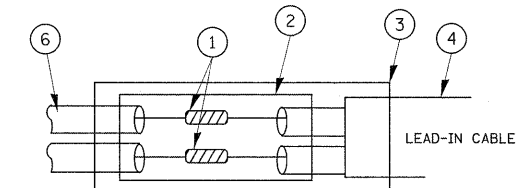


DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

### TYPE I LOOP



DETAIL "A"  
LOOP-TO-LOOP SPLICE



DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE

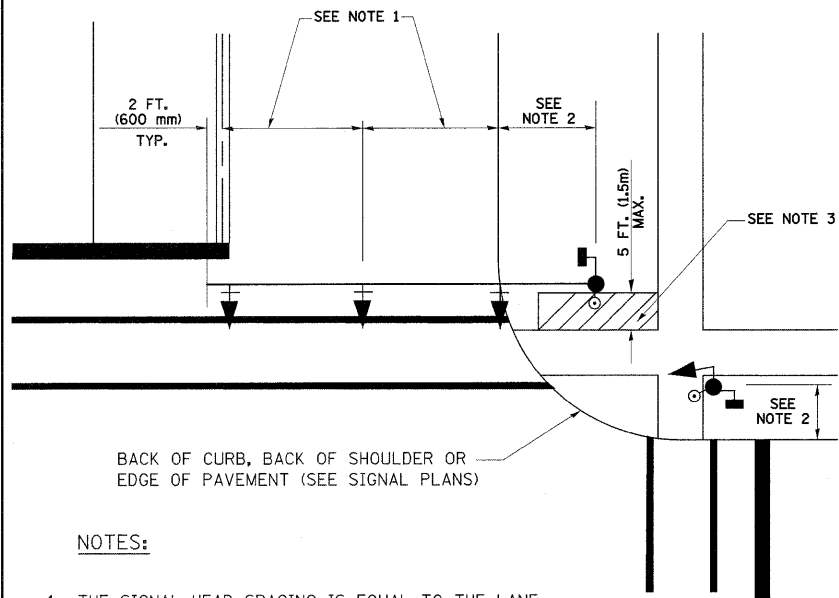
### LOOP DETECTOR SPLICE

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

FILE NAME =	USER NAME = anurajab	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwork\pwork\WIDCT\SHIRANISB\d0107234\01	Std.dgn	DRAWN - BCK	REVISED -			353	23-N-3	COOK	38	33	
	PLOT SCALE = 50.0000' / IN.	CHECKED - DAD	REVISED -			<b>TS-05</b>		<b>CONTRACT NO. 60149</b>			
	PLOT DATE = 3/2/2010	DATE - 10-28-09	REVISED -			FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT					
				SCALE: NONE		SHEET NO. 1 OF 6 SHEETS		STA.		TO STA.	

**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**

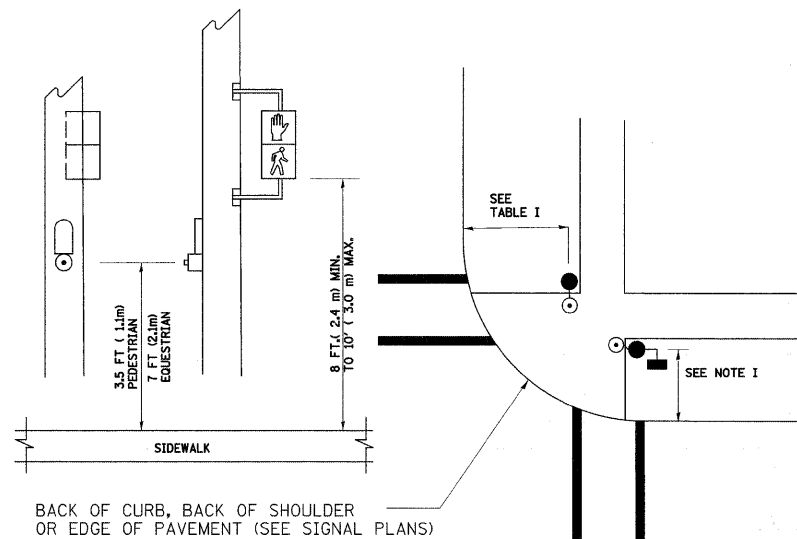
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

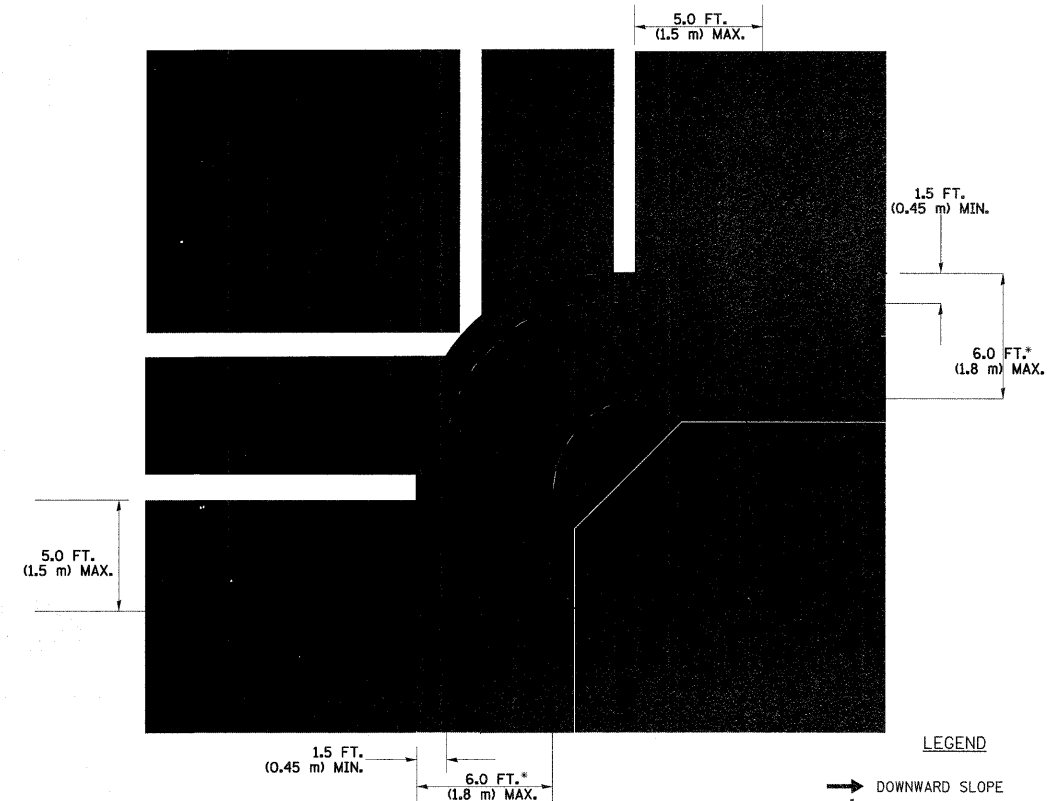
**PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT ( 1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

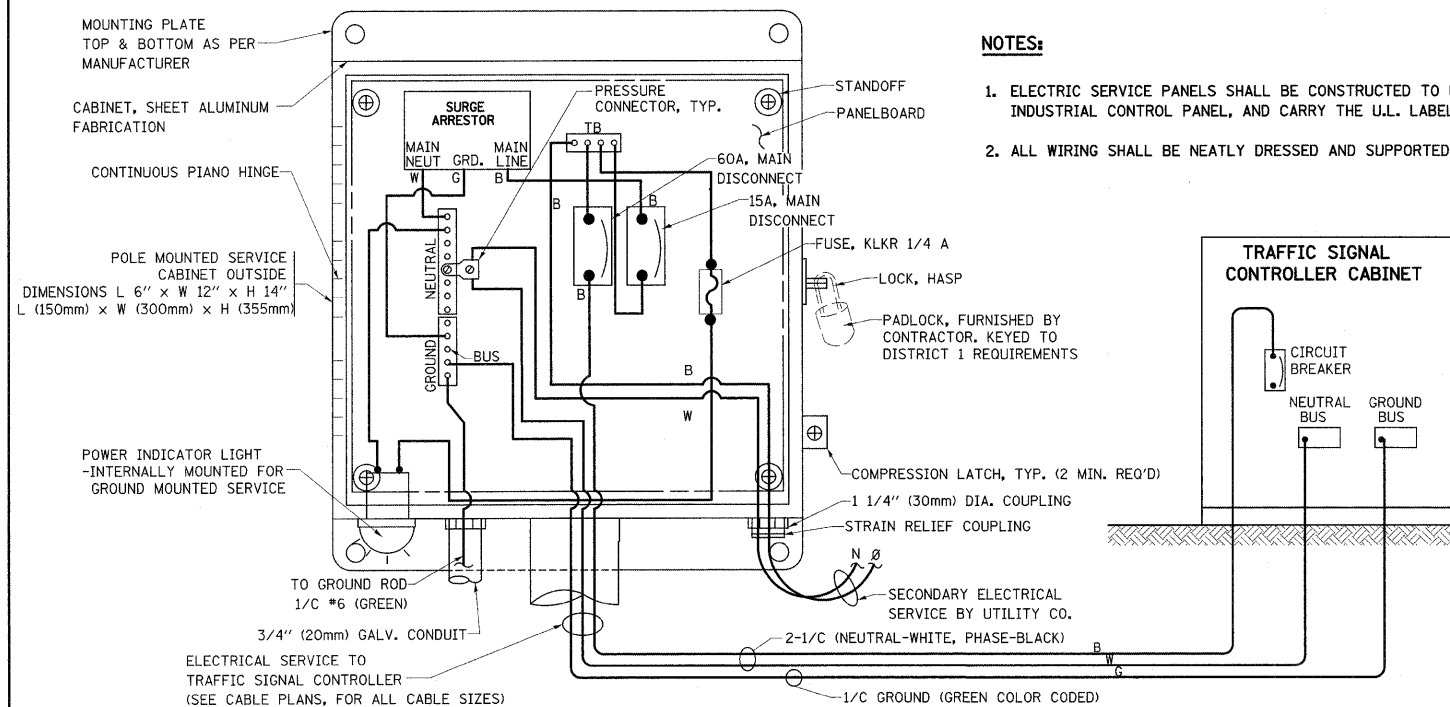
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

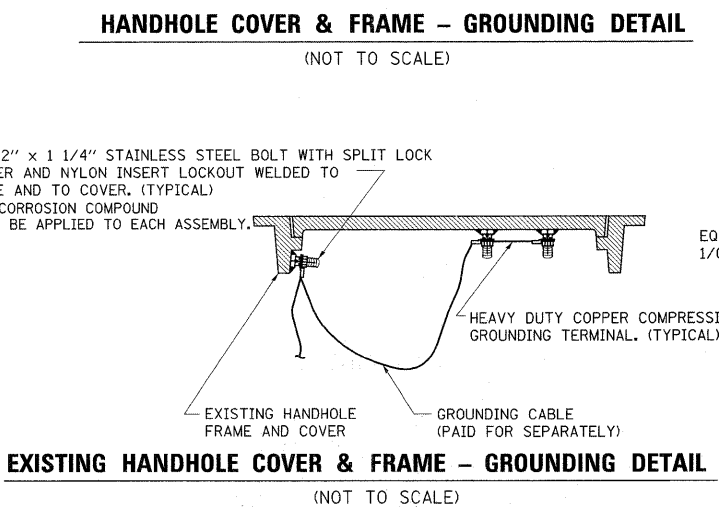
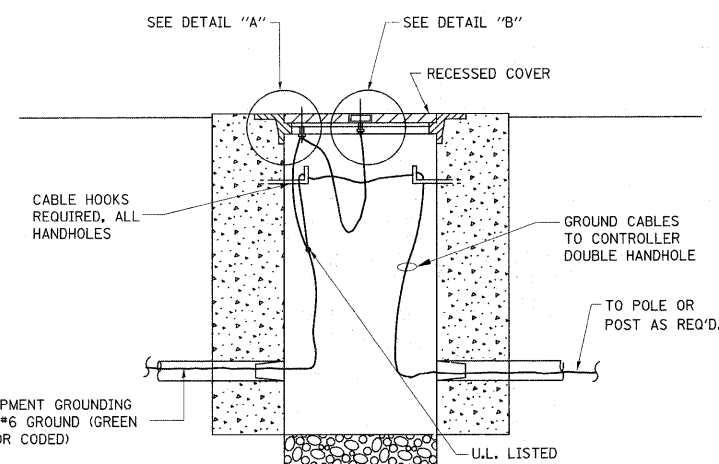
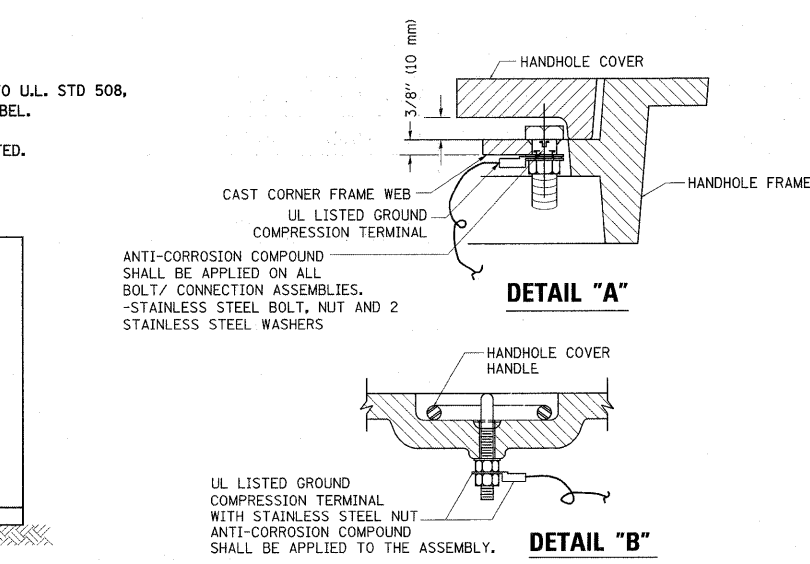
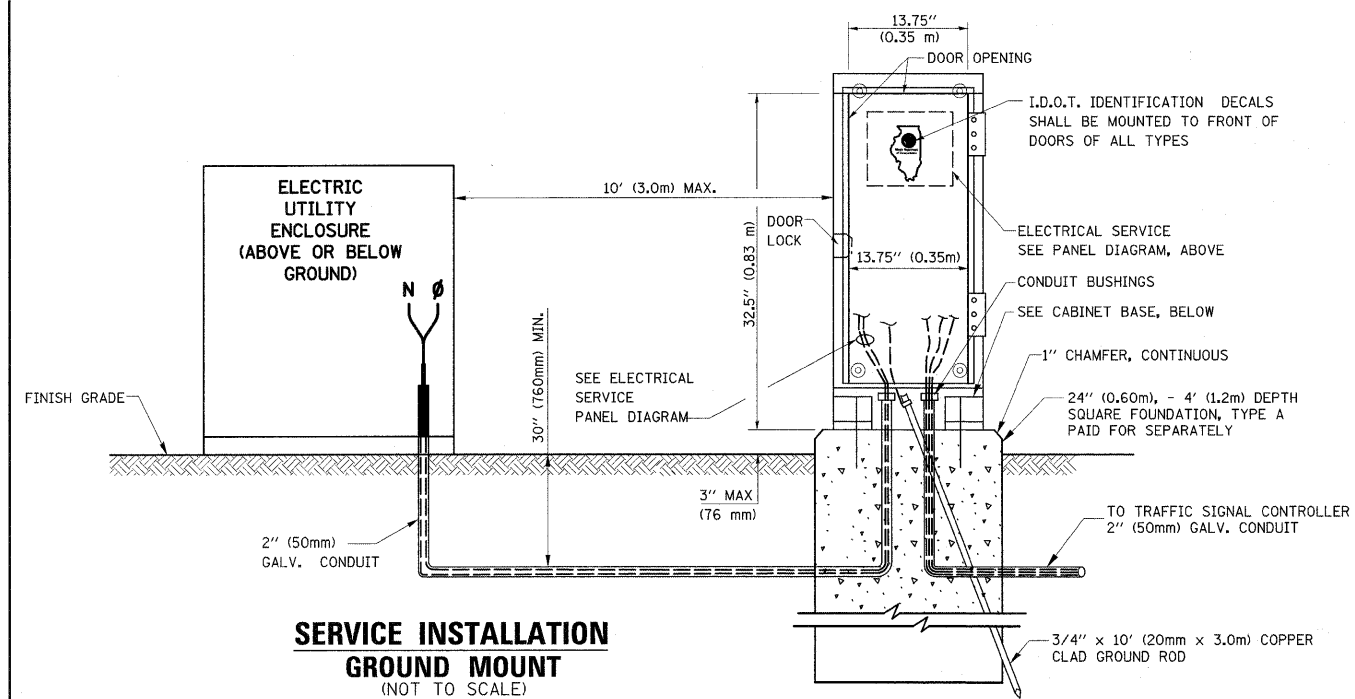
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.



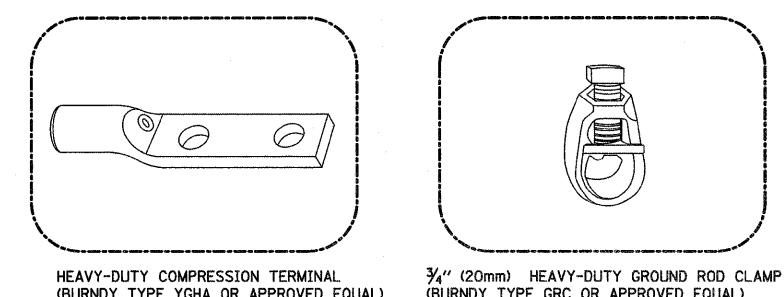
**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



**NOTES:**

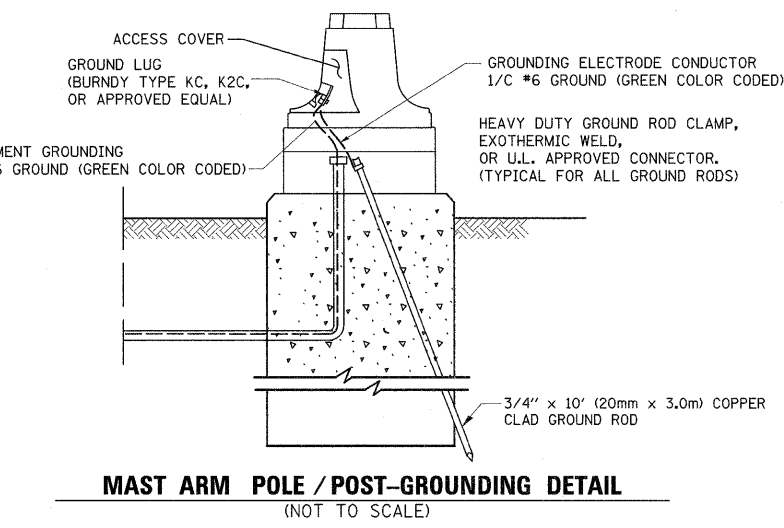
**GROUNDING SYSTEM**

- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
- THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
- ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

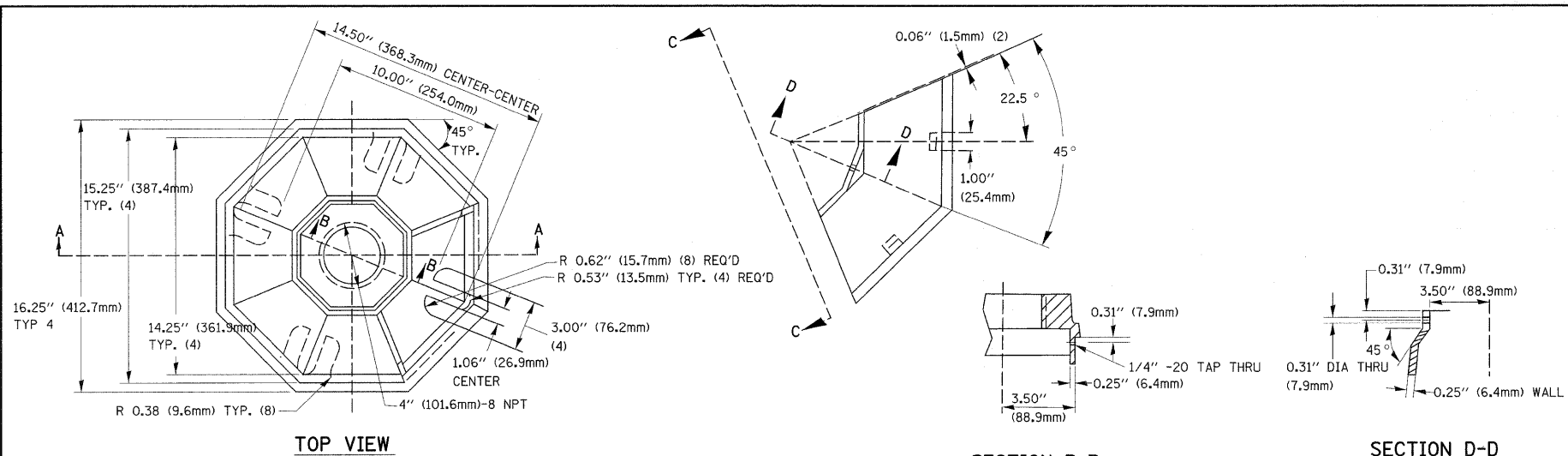


**NOTES:**

- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



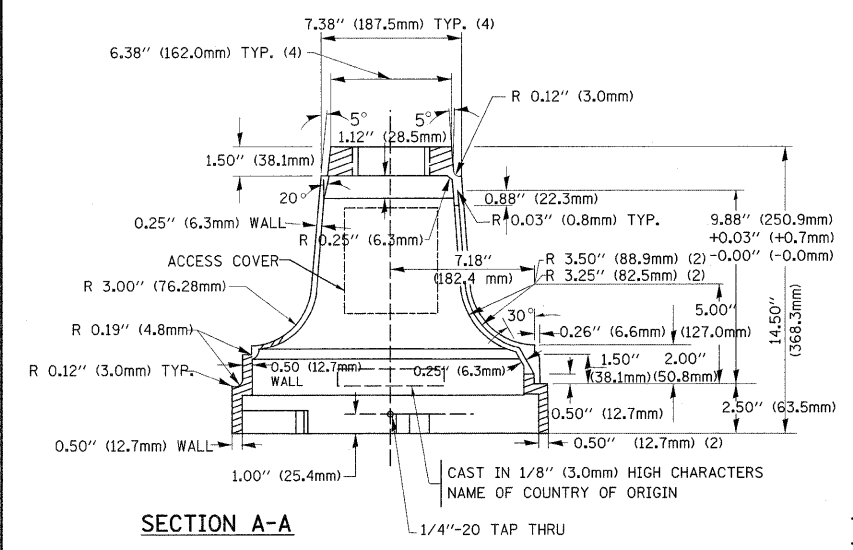
FILE NAME =	USER NAME = shiraniab	DESIGNED - DAD	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>			F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
01\pwork\PIWIDOT\SHIRANISB\08187234\01	5Sed.dgn	DRAWN - BCK	REVISED -		353	23-N-3	COOK	38	35			
PLOT SCALE = 50.0000' / IN.		CHECKED - DAD	REVISED -		<b>TS-05</b>			CONTRACT NO. 60149				
PLOT DATE = 3/2/2010		DATE - 10-28-09	REVISED -		SCALE: NONE	SHEET NO. 3 OF 6 SHEETS	STA.	TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT		



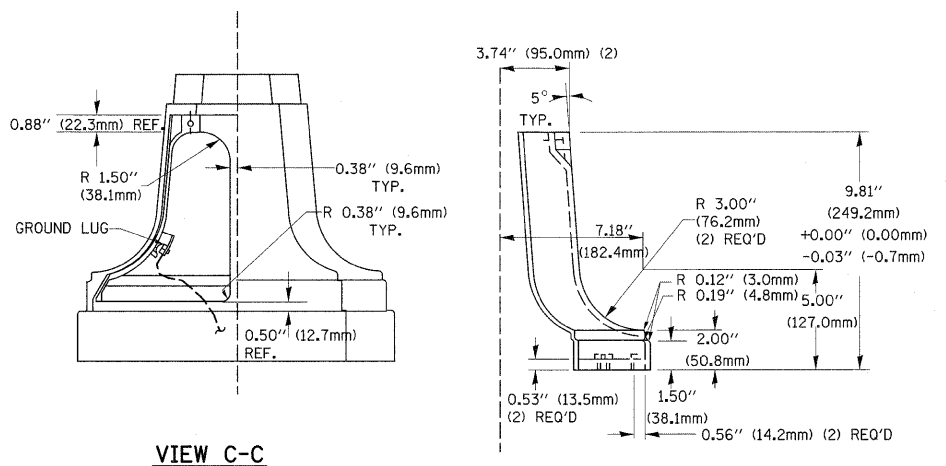
TOP VIEW

SECTION B-B

SECTION D-D

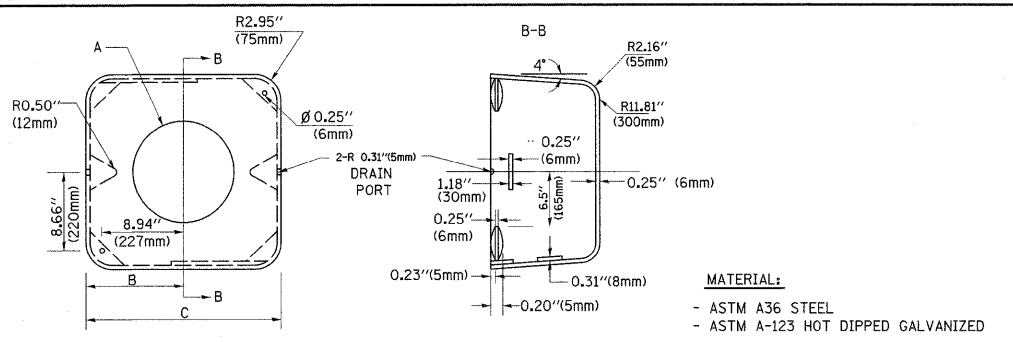


SECTION A-A



VIEW C-C

TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



SHROUD

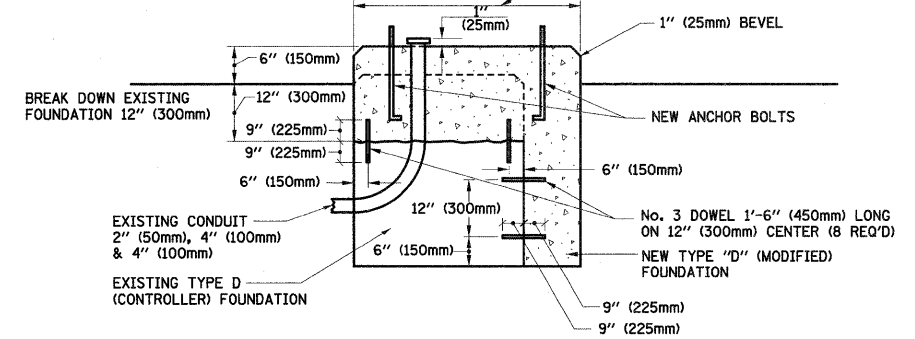
A	B	C	HEIGHT	WEIGHT
VARIES	9.5\"(241mm)	19\"(483mm)	7\"(178mm) - 12\"(300mm)	53 lbs (24kg)
VARIES	10.75\"(273mm)	21.5\"(546mm)	7\"(178mm) - 12\"(300mm)	68 lbs (31 kg)
VARIES	13.0\"(330mm)	26\"(660mm)	7\"(178mm) - 12\"(300mm)	81 lbs (37 kg)
VARIES	18.5\"(470mm)	37\"(940mm)	7\"(178mm) - 12\"(300mm)	126 lbs (57 kg)

NOTES:

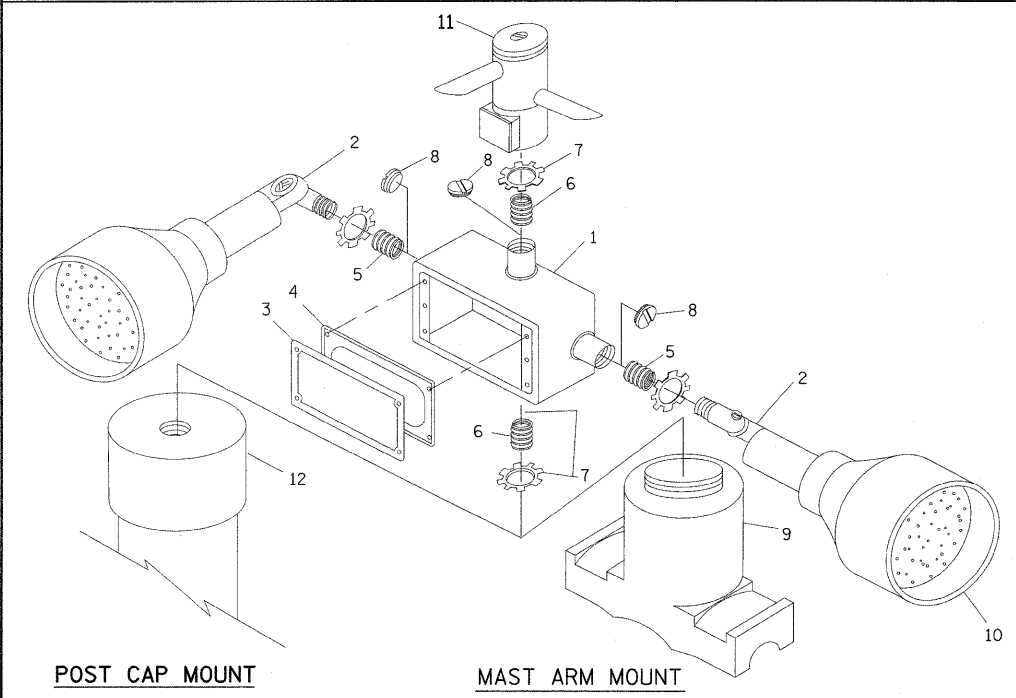
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

NOTE:

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION



POST CAP MOUNT

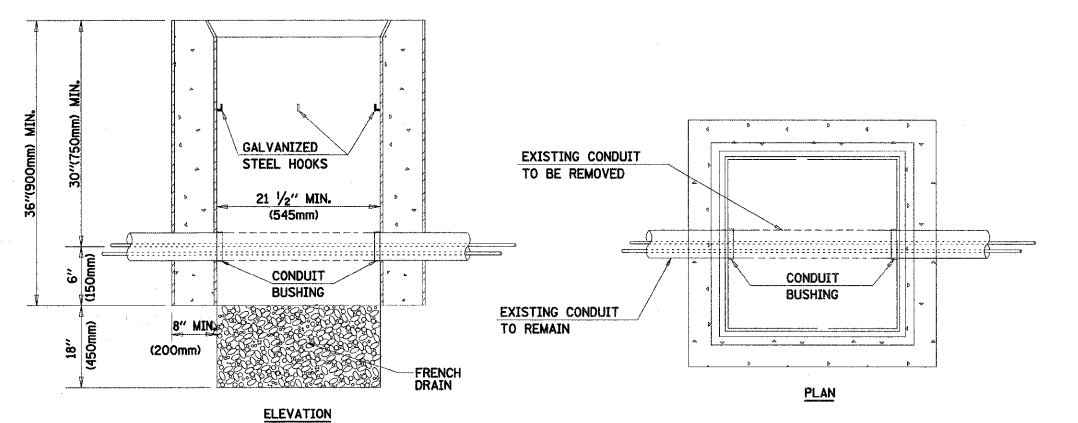
MAST ARM MOUNT

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\"(19 mm) CLOSE NIPPLE
7	3/4\"(19 mm) LOCKNUT
8	3/4\"(19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

NOTES:

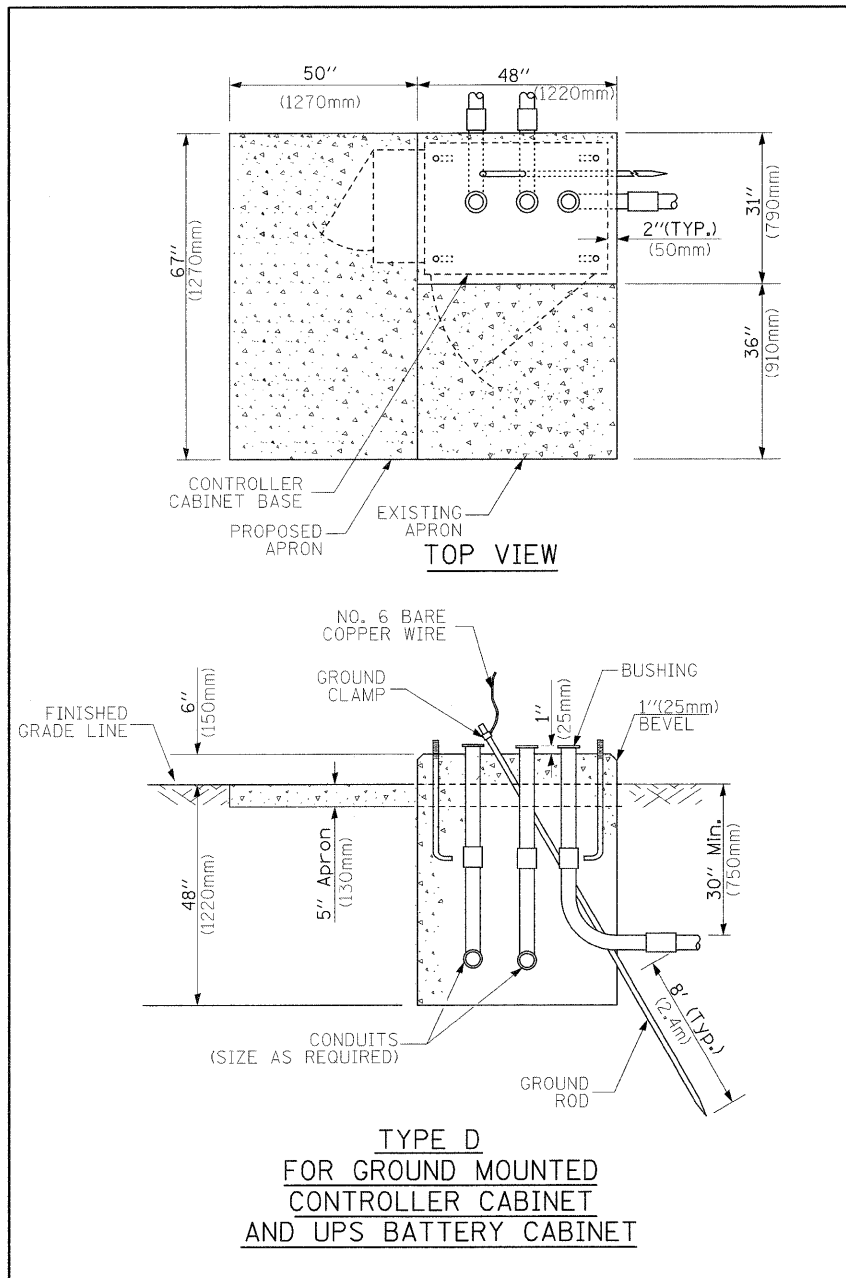
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\"(19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



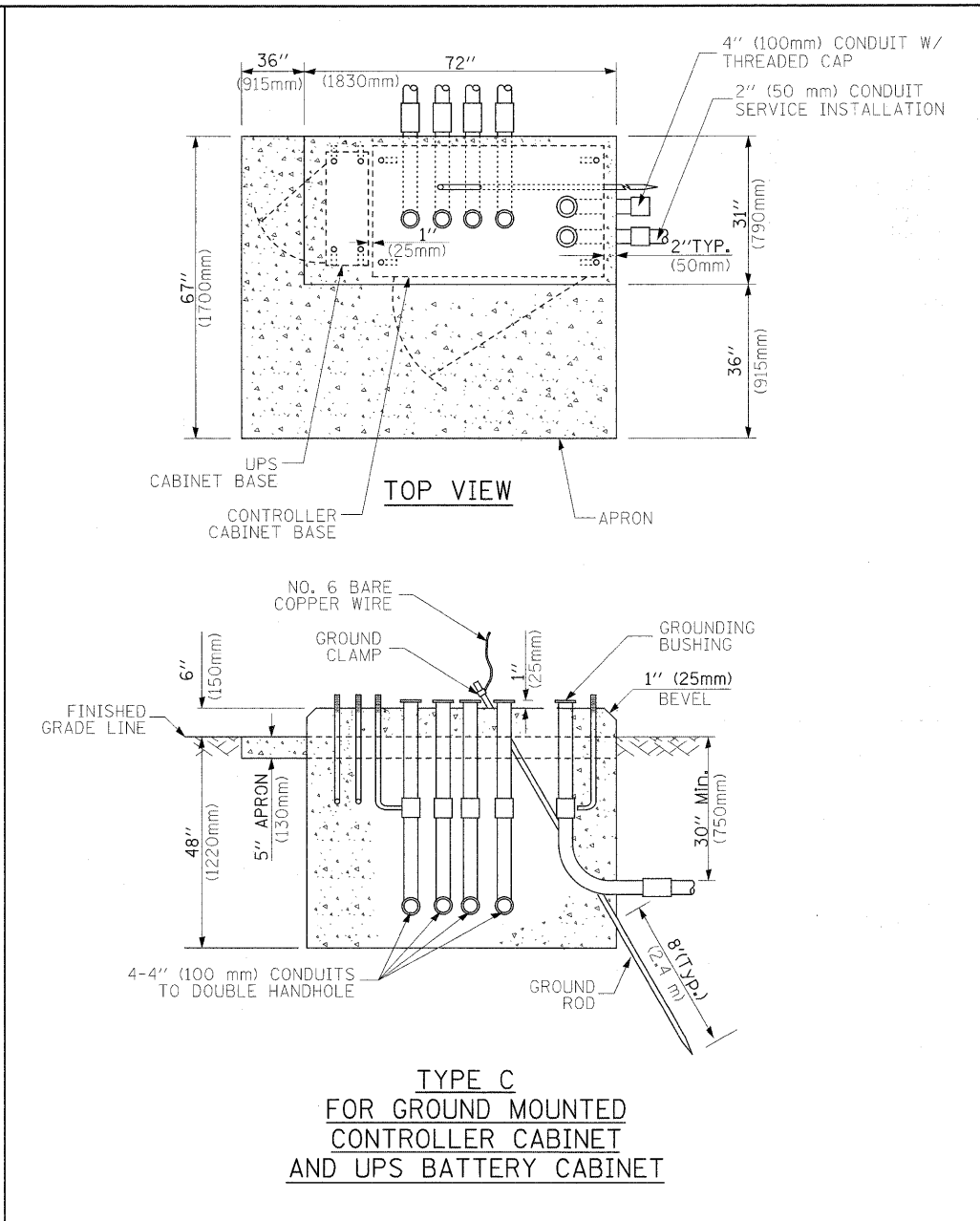
HANDHOLE TO INTERCEPT EXISTING CONDUIT

NOTES:

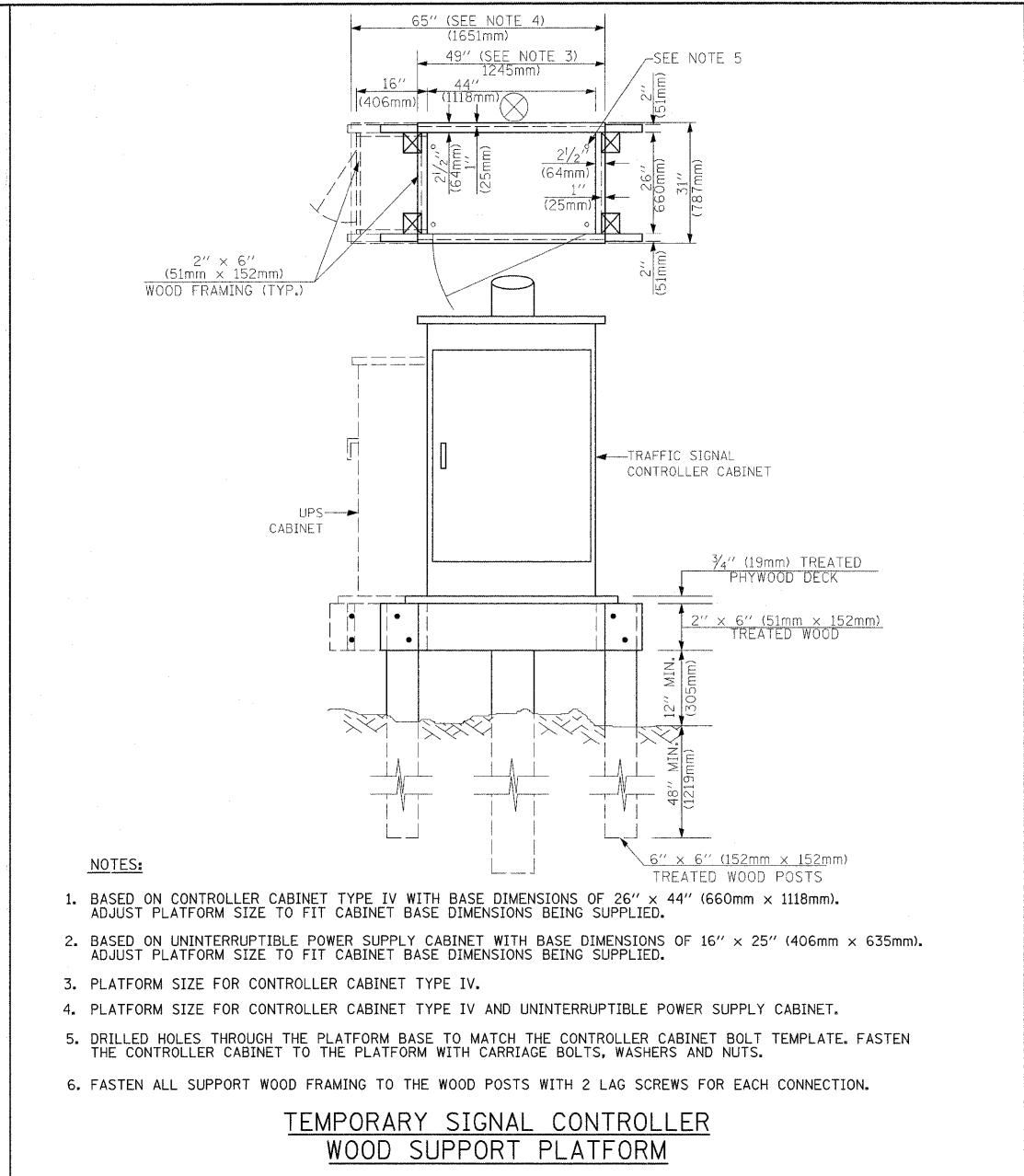
1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.



**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**



**TYPE C  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**



- NOTES:**
1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
  3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
  4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
  5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
  6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and up to 56' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

- NOTES:**
1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
  2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
  3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
  4. For mast arm assemblies with dual arms refer to state standard 878001.

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED											
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE														
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE														
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA														
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED														
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F														
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F														
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F														
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)														
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE														
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED														
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED														
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED														
SIGNAL POST				REMOVE ITEM				STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED														
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM				SIGNAL POST AND FOUNDATION TO BE REMOVED														
GUY WIRE				ABANDON ITEM				INTERSECTION & SAMPLING (SYSTEM) DETECTOR														
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR														
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR														
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR														
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				EXISTING PREFORMED INTERSECTION LOOP DETECTOR														
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR														
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR														
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				PREFORMED SAMPLING (SYSTEM) DETECTOR														
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				<h2 style="margin: 0;">RAILROAD SYMBOLS</h2> <table style="width: 100%; margin: 10px 0;"> <thead> <tr> <th style="width: 50%;">EXISTING</th> <th style="width: 50%;">PROPOSED</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>			EXISTING	PROPOSED										
EXISTING	PROPOSED																					
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT																		
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER																		
DETECTOR LOOP, TYPE I				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED																		
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)																		
MICROWAVE VEHICLE SENSOR																						
VIDEO DETECTION CAMERA																						
VIDEO DETECTION ZONE																						
PAN, TILT, ZOOM CAMERA																						
WIRELESS DETECTOR SENSOR																						
WIRELESS ACCESS POINT																						